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ABSTRACT

To identify the characteristics of students in 12 tchnical agriculture programs in Ohio and to determine the association between selected student characteristics, their success in the program, and their later vocational success, data were gathered from school records of the 12 programs. Questionnaires were mailed to a sample of 420 first and second year students, 85 graduates, 58 dropouts, and 56 employers. Analysis of 562 usable responses revealed that: (1) The typical first year enrollee was 19.1 years of age, a high school graduate with a 104.4 intelligence quotient, who had achieved a 2.24 grade point average and ranked at the 46th percentile in his high school class, (2) Over 60 percent of the students worked during technical school, and the majority worked in agricultural jobs, (3) After 1 year, 20 percent of those completing the programs were in the military services, and 62 percent of the others were employed as agricultural technicians, and (4) After 1 year monthly salaries averaged $550. The report concluded that technical agriculture programs in Ohio are generally adequate and are valued by graduates and employers. Numerous tables present the data. (AG)

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RESEARCH SERIES IN AGRICULTURAL EDUCATION

A Research Report of a Graduate Study

Issued by
The Department of Agricultural Education
College of Agriculture and Home Economics
The Ohio State University
Columbus, Ohio 43210

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RESEARCH SERIES IN AGRICULTURAL EDUCATION

A Research Report

of a

Graduate Study

AGRICULTURAL TECHNICIAN EDUCATION IN OHIO--1970-71

by

James E. Cummins and Ralph E. Bender

This study was supported by the
Ohio Agricultural Research and Development Center

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FOREWORD

Since 1965, 452 students have graduated from agricultural technology programs in Ohio. During the 1970-71 year, 503 students were enrolled in the first and second year programs with 147 completing the program during the year. These students have been involved in nine different technology programs. Increasingly, the technical programs are providing an option for students in agriculture who want to study beyond the high school level but not interested in four-year collegiate instruction.

During the past four years a continuing study concerning the nature of students served, the factors and forces that caused them to enroll and complete such programs, and the effectiveness of each program has been made. This report is an effort contributing to the purpose of developing more effective programs. The work in this study was started by Maynard J. Iverson who served as a research associate in the department during the period 1969-71. Since that time James Cummins has been in this capacity and has done most of the work in preparing this report.

This study has been made possible through the cooperation of personnel in the technical schools including students and graduates and their employers who provided data. We are also grateful to the Ohio Agricultural Research and Development Center at Wooster for providing financial support.

Ralph E. Bender

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AGRICULTURAL TECHNICIAN EDUCATION IN OHIO--1970-71

Ohio technical, post-secondary education in agriculture began in 1963 with one program and 17 students. Since that time, program and student numbers have grown steadily. With this increase have come problems requiring soundly-based decisions if the programs are to prosper. Research aimed at providing needed answers was first conducted in 1968 by Dr. William Becker.[1] His study formed the basis of a continuing effort to evaluate Ohio technician education programs in agriculture. A report of the 1968-69 school year by Iverson, Feck and Bender[2] and the 1969-70 school year report by Iverson and Bender[3] provided additional data. The following represents a further study of technical agriculture students and programs in Ohio for the school year 1970-71.

Purpose

The primary purpose of this study was to identify the characteristics of students in the technical agriculture programs in Ohio and to determine the association between selected student characteristics, their success in the program and their later success in the world of work.

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[1]William J. Becker, "Technical Agriculture Programs in Ohio with Emphasis Upon Student and Program Characteristics." Unpublished Ph.D. Dissertation, The Ohio State University, 1968.

[2]Maynard J. Iverson, Vincent J. Feck and Ralph E. Bender, Student and Program Characteristics of Technical Agriculture Programs in Ohio. Columbus, Ohio: The Ohio State University, Department of Agricultural Education, April, 1970.

[3]Maynard J. Iverson and Ralph E. Bender, Agricultural Technician Education in Ohio--1969-71. Columbus, Ohio: The Ohio State University, Department of Agricultural Education, February, 1971.

Objectives

The specific objectives of this study were to:

1. Determine the enrollments and the drawing and holding power of post-high school agricultural technician education programs.

2. Identify the characteristics of students enrolled in post-high school agricultural technician education programs.

3. Determine the association between selected characterisitics of students and their success as students and as agricultural technicians.

4. Determine the factors and forces which influenced students to enroll in and complete agricultural technician education programs.

5. Determine the satisfaction of students, dropouts, and graduates with their agricultural technician education program.

6. Determine how adequately the technician education programs in agriculture prepared graduates to achieve the level of performance expected by their employers.

Scope

The population of this study included all students and dropouts in the twelve agricultural technology programs conducted at eight schools in Ohio during the 1970-71 school year, plus the 1970 spring graduates of seven programs and their employers. Figure 1. illustrates graphically the respective institutions, their locations and the programs offered.

Method of Investigation

Surveys conducted

Data were secured from six basic sources. Questionnaires[4] were

[4]Copies of the various questionnaires used appear in Appendix A.

AGRICULTURAL TECHNOLOGIES IN OHIO, 1970-71

KEY

1. Clark County Technical Institute, Springfield
   - Agri-Business
   - Agri-Equipment
   - Turf-Nursery
2. Cleveland Technical School, Cleveland
   - Horticulture
3. Columbus Technical Institute, Columbus
   - Small Animal Laboratory
4. Four County Technical Institute, Archbold
   - Agri-Management and Accounting
5. Muskingum Area Technical Center, Zanesville
   - Natural Resource Conservation
   - Water Pollution
6. Penta Technical College, Perrysburg
   - Agri-Business
7. Tri-County Technical Institute, Nelsonville
   - Forestry
   - Outdoor Recreation and Wildlife
8. Vanguard Area Technical Center, Fremont
   - Diesel Mechanics

Figure 1.

administered to: enrollees, second-year students (during their last quarter prior to graduation), dropouts, 1970 graduates (one year after completing their technical course) and employers of these graduates. Directors of the programs involved provided up-dated addresses and names of 1970 graduates and their employers. Teachers of courses in the newer programs furnished lists of abilities and understandings they expected students to obtain in the program. These lists were included in the second-year student survey. Two follow-up letters, when needed, were sent to all those who did not promptly return the mailed questionnaire. Data regarding responses to the questionnaires are indicated in Table 1.

TABLE 1

RESPONSES FROM THE PARTICIPANTS IN THE STUDY

Group	Total Group Population	Accessible Population[a]	Useable Responses		
			Number	Percentage of Group Total	Percentage of Accessible Population
Enrollees[b]*	324	264	264	81.4	100.0
Students	191	156	156	81.7	100.0
Graduates	107	85	76	71.0	89.4
Employers	65 (est.)	56	40	61.5	71.4
Dropouts	95	58	26	27.3	44.8
All Groups	782	619	562	71.9	90.8

[a]Accessible population is that part of the total population which was available for study. Dropouts and absenteeism accounted for the reduced numbers of enrollees and students.

[b]"Enrollees", in the context of this report, indicates students during their first year in a technical program; second-year students are referred to as "students".

*Data from the Cleveland Horticulture Technical Program was not collected.

Use of school records

Data were collected from the cumulative records of those students who had enrolled in agricultural technician training programs in Ohio during 1970-71. The high school transcripts provided information on grade point average and credits for Science, Math, English, Vo-Ag and all courses plus the class rank and intelligence quotient. From the technical institution transcript, information on grades and grade point average was obtained for 1971 graduates.

Processing

Data collected were programmed by the investigator for electronic tabulation and processing at the Computer Center, Ohio Agricultural Research and Development Center, Wooster. The collated data were then put in table form and summarized.

Major Findings of the Study

The major findings derived from analysis of the data collected through this study are indicated below.

Ohio technical agriculture programs and participants

Initial enrollment

For the school year 1970-71, the first-year enrollment was 324 students in ten technologies. This represents an increase of 34 new students over the previous year, but a decrease to an average of twenty-two per program. Table 2 includes specific data on enrollment for the various technologies.

TABLE 2

INITIAL ENROLLMENT IN TECHNICAL AGRICULTURE PROGRAMS BY YEAR

Program	1963	1964	1965	1966	1967	1968	1969	1970
Agri-Business Clark County	17	28	25	24	31	36	25	27
Penta	--	--	--	--	--	39	32	16
Ag. Mgmt. & Acctg.	--	--	--	--	--	--	23	22
Ag. Equipment	--	13	13	27	28	18	23	14
Diesel Mechanics	--	--	--	--	--	--	16	4
Food Processing	--	--	13	17	18	8	--	--
Forestry	--	--	--	--	--	34	40	31
Horticulture	--	--	--	22	11	9	22	--
Natural Resources	--	--	--	--	--	--	30	26
Recreation & Wildlife	--	--	--	--	--	39	54	51
Small Animal Lab	--	--	--	--	--	--	--	22
Turf-Nursery	--	--	--	--	--	--	--	11
Water Pollution	--	--	--	--	--	--	25	40
All Programs	17	41	51	90	88	183	290	264
Average Per Program	17	20.5	17	22.5	22	26.2	29	24

Graduates

In the spring of 1971, 147 students graduated from nine agricultural technologies at six institutions bringing to 452 the total graduating in Ohio since 1963. Projections based on the number of second-year students indicate a potential of 261 graduates in 1972 from eleven technologies at seven institutions.

TABLE 3

GRADUATES FROM TECHNICAL AGRICULTURE PROGRAMS BY YEAR

Programs	Graduates							
	1965	1966	1967	1968	1969	1970	1971	Total
Agri-Business								
Clark County	12	18	25	16	23	24	15	133
Penta	--	--	--	--	--	22	22	44
Ag. Mgmt. & Acctg.	--	--	--	--	--	--	14	14
Agri-Equipment	--	9	11	15	18	13	16	82
Diesel Mechanics	--	--	--	--	--	--	--	--
Food Processing	--	--	11	12	10	5	--	38
Forestry	--	--	--	--	--	15	19	34
Horticulture	--	--	--	12	6	8	7	33
Natural Resources	--	--	--	--	--	--	15	15
Recreation & Wildlife	--	--	--	--	--	20	25	45
Water Pollution	--	--	--	--	--	--	14	14
All Programs	12	27	47	55	57	107	147	452

Program status--1970-71

For the school year 1970-71, first and second-year student enrollment totaled 503 including 147 graduates; 261 continues as second-year students in the fall of 1971 leaving 95 dropouts. The 18.9 per cent dropout rate is lower than that of previous years. Table 4 lists specific data for this section.

TABLE 4

TOTAL 1970-71 ENROLLMENT, NUMBER OF GRADUATES, NUMBER CONTINUING IN 1971-72 AND DROPOUTS BY TECHNICAL AGRICULTURE PROGRAM

Program	Total Number in Program	Number Graduated	1970 Enrollees Continuing Second Year	Number Dropouts	Per Cent Dropouts of Total in Program
Agri-Business Clark County	50	15	25	10	20.0
Penta	42	22	19	1	2.4
Ag. Mgmt. & Accounting	46	14	20	12	26.1
Agri-Equipment	30	16	12	2	6.7
Diesel Mechanics	5	--	--	5	100
Food Processing	--	--	--	--	--
Forestry	65	19	28	18	27.7
Horticulture	18	7	8	3	16.7
Natural Resources	45	15	27	3	6.7
Recreation and Wildlife	104	25	58	21	20.2
Small Animal Lab.	26	--	22	4	15.4
Turf Nursery	12	--	11	1	8.3
Water Pollution	60	14	31	15	25.0
All Programs	503	147	261	95	18.9

Characteristics of enrollees

Age

In 1970, the average age of students when they first enrolled in technical agriculture programs was 19.1 years as can be seen in Table 5. This is substantially the same as in previous years.

TABLE 5

AGE OF ENROLLEES IN TECHNICAL AGRICULTURE PROGRAMS

Program	N	Mean	Range
Agri-Business			
Clark County	27	18.3	17-22
Penta	16	20.3	18-45
Agri-Management and Accounting	22	18.5	17-23
Agri-Equipment	14	18.7	18-23
Diesel Mechanics	4	19.3	19-20
Forestry	31	19.3	18-26
Natural Resources	26	19.0	17-24
Recreation & Wildlife	51	19.0	18-43
Small Animal Lab.	22	19.2	18-24
Turf-Nursery	11	19.4	18-24
Water Pollution	40	19.7	17-35
All Programs	264	19.1	17-45

Father's occupation

More than sixty-five per cent of all fathers of enrollees worked in non-agricultural businesses. Only the Agri-Business, Agri-Equipment and Ag. Management and Accounting technologies had students whose fathers were mostly farmers, as indicated in Table 6.

TABLE 6

OCCUPATIONS OF FATHERS OF ENROLLEES IN TECHNICAL AGRICULTURE PROGRAMS

	Number of fathers employed in:					
Program	Farming	Non-Agri-Business	Off-Farm Agri-Business	Retired	Columns 1 & 2	Columns 1 & 3
Agri-Business						
Clark County	12	5	1	0	7	1
Penta	8	2	1	0	3	0
Agri-Management and Accounting	13	4	2	2	1	0
Agri-Equipment	9	2	1	0	0	2
Diesel Mechanics	1	0	0	0	2	1
Forestry	5	22	0	3	0	0
Natural Resources	1	23	0	1	0	0
Recreation and Wildlife	5	38	2	3	1	1
Small Animal Lab.	0	22	0	0	0	0
Turf-Nursery	2	5	2	2	0	0
Water Pollution	3	30	0	2	2	0
All Programs	59	153	9	13	16	5

Enrollee Residence

Table 7 records a wide range in residences among the ten technologies with the more farm-oriented programs having the highest percentage of students from farm homes. Over-all, the 42 per cent from farm homes and the 40 per cent from urban homes represent a marked change from previous years when more were from farms and fewer from the city.

TABLE 7

ENROLLEE RESIDENCE DURING HIGH SCHOOL

Program	Number of Enrollees Reporting: Farm Residence	Rural Non-Farm	Urban Residences
Agri-Business			
Clark County	23	4	0
Penta	11	2	3
Agri-Management and Accounting	20	2	0
Agri-Equipment	12	1	1
Diesel Mechanics	4	0	0
Forestry	9	5	17
Natural Resources	6	4	16
Recreation & Wildlife	9	15	27
Small Animal Lab	2	5	15
Turf-Nursery	4	3	4
Water Pollution	11	7	22
All Programs	111	48	105

Distance from enrollees residence to technical institute

Over 50 per cent of 1970 enrollees lived within fifty miles of their institution. This is a decrease from previous years with about three per cent living more than 200 miles distant. Only the forestry program had more students from over fifty miles distant than were from homes less than fifty miles away. Table 8 gives specific details, by program.

TABLE 8

DISTANCE FROM HOME RESIDENCE TO TECHNICAL INSTITUTE ATTENDED

Program	Number of Students by Range in Miles					
	0-25	26-50	51-75	76-100	101-200	Over 200
Agri-Business						
Clark County	8	5	5	5	3	1
Penta	6	5	0	2	3	0
Agri-Management & Accounting	14	5	1	2	0	0
Agri-Equipment	4	0	4	2	2	2
Diesel Mechanics	3	1	0	0	0	0
Forestry	1	5	7	2	11	5
Natural Resources	13	7	1	1	4	0
Recreation and Wildlife	7	2	7	1	22	12
Small Animal Lab.	13	4	0	3	2	0
Turf-Nursery	2	5	1	0	3	0
Water Pollution	21	9	2	3	5	0
All Programs	92	48	28	21	55	20

Commuting Students

Table 9 shows that nearly forty-eight per cent of all enrollees commuted--a decrease from the fifty-four last year, but the same as in previous studies. Forestry and Recreation and Wildlife students commuted less because of distance from home.

TABLE 9

NUMBERS AND PERCENTAGE OF COMMUTING STUDENTS
IN TECHNICAL AGRICULTURE PROGRAMS

Program	Number of Students		Percentage Commuting
	Reporting	Commuting	
Agri-Business			
Clark County	27	13	48.1
Penta	16	10	62.5
Agri-Management & Accounting	22	19	86.3
Agri-Equipment	14	4	28.5
Diesel Mechanics	4	4	100.0
Forestry	31	4	12.9
Natural Resources	26	14	53.8
Recreation & Wildlife	51	9	17.6
Small Animal Lab.	22	17	77.2
Turf-Nursery	11	7	63.6
Water Pollution	40	25	62.5
All Programs	264	126	47.7

High school credits, average, rank and I.Q.

Enrollees in Ohio technical agriculture programs in 1970 had a 2.24 grade point average in high school, ranked at the 46th percentile in their classes, and had a 104 intelligence quotient. Grade point average and class rank were down somewhat from the past but this may be due to the limited numbers of transcripts which provided data this year. The older, more established programs nearly all recorded gains in the above quality measurements over those shown by previous research.

Specific data for each program are presented in Table 10.

TABLE 10

HIGH SCHOOL GRADE POINT AVERAGE,[a] CLASS RANK AND INTELLIGENCE QUOTIENT SCORES OF ENROLLEES IN TECHNICAL AGRICULTURE PROGRAMS

Program	N	GPA[a] Mean	N	Class Rank Percentile Mean	N	I.Q. Mean
Agri-Business						
Clark County	27	2.43	24	50.9	14	103.8
Penta	15	2.36	11	48.9	9	104.2
Agri-Management & Accounting	21	2.48	19	56.6	9	106.2
Agri-Equipment	13	2.32	14	48.1	5	105.0
Diesel Mechanics	4	2.32	3	54.7	2	91.5
Forestry	19	2.09	17	47.2	9	101.1
Natural Resources	18	1.98	19	35.4	4	105.3
Recreation & Wildlife	35	1.94	31	32.1	9	102.0
Small Animal Lab.	20	2.70	20	58.6	8	109.8
Turf-Nursery	10	1.98	11	32.2	8	102.9
Water Pollution	25	1.97	26	38.3	5	110.4
All Programs	207	2.24	195	45.7	82	104.4

Employment during high school and before entering technical school

Only 8.7 per cent of the 264 enrollees in 1970 reported no employment during high school as seen in Table 11. One hundred sixty-nine

reported doing farm work but 182 said they had worked in a business--either agricultural or another type. A number of students worked in more than one occupational category.

TABLE 11

EMPLOYMENT HELD BY TECHNICAL AGRICULTURE ENROLLEES WHILE IN HIGH SCHOOL

		Number Reporting Employment				
			ON:		IN:	
Program	N	None	Home Farm	Different Farm	Agri-Business	Non-Agri-Business
Agri-Business						
Clark County	27	0	22	9	13	4
Penta	16	0	10	6	5	4
Agri-Management & Accounting	22	0	19	10	7	3
Agri-Equipment	14	0	11	7	4	2
Diesel Mechanics	4	0	4	1	1	1
Forestry	31	4	4	10	2	18
Natural Resources	26	3	6	5	3	16
Recreation and Wildlife	51	5	6	12	10	32
Small Animal Lab.	22	6	1	4	4	11
Turf-Nursery	11	0	2	2	8	4
Water Pollution	40	5	6	12	4	26
All Programs	264	23 (8.7%)	91 (34.4%)	78 (29.5%)	61 (23.1%)	121 (45.8%)*

*Percentage comes out to more than 100% because several students worked in more than one category.

In the period after high school and before entering technical school 61.9 per cent worked full time and 30.7 per cent worked on part-time jobs; only 7.4 per cent of the 1970 enrollees reported no jobs. The number working on farms increased to 99 and the number working in a business rose to 205. This pattern approximates the prior findings. Amount and type of employment, by program, are given in Tables 12 and 13, respectively.

TABLE 12

AMOUNT OF EMPLOYMENT BETWEEN HIGH SCHOOL AND ENTERING TECHNICAL SCHOOL AS INDICATED BY ENROLLEES

Program	N	None	Part Time	Full Time
Agri-Business				
Clark County	26	1	5	20
Penta	15	1	5	9
Agri-Management & Accounting	21	0	5	16
Agri-Equipment	14	0	0	14
Diesel Mechanics	4	0	0	4
Forestry	31	3	15	13
Natural Resources	25	3	10	12
Recreation & Wildlife	51	5	17	29
Small Animal Lab.	19	3	9	7
Turf-Nursery	11	0	2	9
Water Pollution	40	3	11	26
All Programs	257	19	79	159

TABLE 13

TYPE OF EMPLOYMENT BETWEEN HIGH SCHOOL GRADUATION AND ENROLLMENT IN TECHNICAL AGRICULTURE PROGRAM AS INDICATED BY ENROLLEES

		Employment in:			
		Farming			
Program	N	Home Farm	Different Farm	Agri-Business	Non-Agri-Business
Agri-Business					
Clark County	26	16	5	11	4
Penta	15	7	4	4	6
Agri-Management & Accounting	22	11	8	11	7
Agri-Equipment	14	11	6	3	5
Diesel Mechanics	4	3	1	2	0
Forestry	31	2	5	3	21
Natural Resources	26	1	2	3	19
Recreation and Wildlife	51	3	6	9	32
Small Animal Lab.	19	0	1	5	15
Turf-Nursery	11	2	0	7	3
Water Pollution	40	2	3	2	33
All Programs	259	58 (22.3%)	41 (15.8%)	60 (23.1%)	145 (56.0%)

Note: Percentages come out to more than 100% because several students worked in more than one category.

Factors influencing continued education

Enrollees in all ten programs in 1970 indicated that the desire for increased earning ability was the major reason for continuing their

education beyond high school. As recorded in Table 14, there was less agreement on the influence of other factors but it was generally agreed that a military deferment and desire of an employer were minor influences. These findings approximate those in the previous studies.

Influences on students regarding entering technical programs

As in the past, parents and others were the persons who exerted the most, although moderate, influence on students to enroll in a particular technical program. However, "Other" was checked by only about one-third of the respondents. The remaining persons' influence on students varied by program as shown in Table 15.

Major factors involved in student selection of a specific program were: location of school, ability to work while attending and low tuition. No factors were rated as being highly influential, however, as evidenced in Table 16.

Desired work conditions

Table 17 reveals enrollee rating of various working conditions. Most favored were: outdoor work, work with the hands, working with plants and animals and managerial and supervisory positions; office and sales work were generally disliked.

Characteristics of second-year students

The previous section characterized the 1970 enrollees in technical agriculture programs in Ohio; this segment deals with 156 second-year students who were surveyed during the spring of 1971.

TABLE 14

FACTORS WHICH INFLUENCED ENROLLEES TO CONTINUE THEIR EDUCATION BEYOND HIGH SCHOOL[a]

Factor	Programs											
	Agri-Business		Agri-Mgmt./ Acct.	Agri-Equip.	Diesel Mech.	For-estry	Natural Resources	Recr. & Wildlife	Small Animal Lab.	Turf-Nursery	Water Pollu-tion	All Pro-grams
	Clark N=27	Penta N=16	N=22	N=14	N=4	N=31	N=26	N=51	N=22	N=11	N=40	N=264
Increased earning ability	7.6	5.3	6.8	6.8	8.5	5.6	6.8	5.6	6.1	6.6	7.2	6.5
Desire of parents, relatives and friends	5.4	4.8	4.6	4.6	5.3	5.5	4.8	3.9	4.5	4.8	4.6	4.7
Lack of employment opportunities	4.3	3.4	4.0	3.4	4.0	5.2	3.3	3.9	4.1	2.7	4.8	4.1
Enjoy school work	3.7	3.5	3.6	2.5	4.0	4.4	3.9	3.7	4.7	3.0	3.9	3.8
Social Prestige	4.3	3.4	3.0	2.9	5.0	3.2	2.8	3.5	3.8	2.8	3.3	3.4
Friends continuing in school	3.3	3.2	3.0	3.6	3.8	3.3	2.7	2.8	3.1	3.3	3.1	3.0
Desire of employer	2.9	4.4	3.0	2.1	5.3	2.8	2.3	2.9	2.8	3.2	2.3	2.8
Military deferment	2.4	2.4	2.5	2.4	5.5	2.7	2.3	2.3	1.0	1.7	1.9	2.2

[a]Based on a mean from a nine-point scale, nine indicating major influence.

TABLE 15

PERSONS WHO INFLUENCED ENROLLES TO ENTER A PARTICULAR TECHNICAL AGRICULTURE PROGRAM[a]

Persons	Number of Students and Mean Ratings by Programs											
	Agri-Business Clark N=27	Agri-Business Penta N=16	Agri-Mgmt./ Acct. N=22	Agri-Equip. N=14	Diesel Mech. N=4	For-estry N=31	Natural Resources N=26	Recr. & Wildlife N=51	Small Animal Lab. N=22	Turf-Nursery N=11	Water Pollu-tion N=40	All Pro-grams N=264
Other	4.5	4.6	6.2	2.0	1.0	6.8	8.9	6.7	6.9	4.2	6.5	6.1
Parents	5.4	5.7	4.7	5.5	4.8	4.5	5.0	3.9	3.7	5.3	4.7	4.7
Technical school representative	3.7	4.8	4.0	4.2	5.8	2.9	2.7	3.1	4.1	4.4	4.0	3.7
Guidance counselor, high school	4.8	3.4	4.5	3.4	2.8	4.1	3.5	3.6	2.5	3.2	3.0	3.6
Friends	3.9	3.0	2.8	4.4	4.3	2.8	3.3	3.3	3.2	3.9	3.3	3.3
Vocational agri-culture teacher	4.8	5.4	4.8	5.2	5.3	1.7	3.1	2.3	1.3	4.5	2.1	3.2
Other high school teachers	3.4	3.6	3.5	3.6	2.8	3.0	4.3	2.9	1.9	2.8	2.9	3.1
Other relatives	2.5	3.6	2.4	4.4	2.3	3.1	3.5	2.6	1.6	2.2	2.7	2.8
Employer	2.9	3.6	2.3	2.9	5.3	2.1	2.0	2.0	2.6	3.5	1.8	2.4
High school administrator	3.1	2.0	3.4	3.4	2.5	1.9	2.3	2.0	1.3	1.7	2.1	2.3
Wife	1.0	1.4	1.3	1.9	3.7	1.0	1.7	1.5	1.1	2.7	1.7	1.5

[a]Based on a mean from a nine-point scale, nine indicating major influence.

TABLE 16

FACTORS WHICH INFLUENCED ENROLLEES TO ENTER A PARTICULAR AGRICULTURE PROGRAM[a]

Factor	Number of Students and Mean Ratings by Programs											
	Agri-Business Clark N=27	Agri-Business Penta N=16	Agri-Mgmt./ Acct. N=22	Agri-Equip. N=14	Diesel Mech. N=4	For-estry N=30	Natural Resources N=25	Recr. & Wildlife N=51	Small Animal Lab. N=22	Turf-Nursery N=11	Water Pollu-tion N=40	All Pro-grams N=262
Location of school	4.6	5.4	6.3	3.7	8.0	5.6	4.7	4.0	5.7	4.5	5.3	5.0
Low school tuition	3.6	4.3	5.4	3.8	7.5	5.4	3.7	4.4	4.4	3.5	4.1	4.4
Ability to work while attending school	4.8	5.7	5.7	5.0	8.0	3.0	2.8	2.9	3.9	4.2	3.8	4.0
Newspaper article or other type of publication describing the program	3.1	3.9	3.5	3.7	3.5	3.8	4.4	4.0	4.2	2.6	3.8	3.8
Visit with representative from the technical school	3.5	3.3	3.5	4.7	5.5	3.0	3.5	2.6	3.4	5.0	3.4	3.4
Open house at technical school	3.8	2.8	2.4	3.7	3.8	2.5	2.1	2.3	2.4	3.3	1.8	2.6

[a]Based on a mean from a nine-point scale, nine indicating major influence.

TABLE 17

DESIRABILITY OF WORK CONDITIONS AS INDICATED BY ENROLLEES OF TECHNICAL AGRICULTURE PROGRAMS[a]

Work Situation	Number of Students and Mean Ratings by Programs											
	Agri-Business Clark N=27	Agri-Business Penta N=16	Agri-Mgmt./ Acct. N=22	Agri-Equip. N=14	Diesel Mech. N=4	For-estry N=30	Natural Resources N=26	Recr. & Wildlife N=51	Small Animal Lab. N=22	Turf-Nursery N=11	Water Pollu-tion N=40	All Pro-grams N=263
Working out of doors	7.3	7.5	7.8	7.5	8.3	8.3	8.3	8.3	6.8	8.2	7.9	7.9
Working with plants and animals	6.4	6.2	7.0	6.2	6.5	7.7	8.2	8.0	8.6	8.0	6.8	7.5
Working with your hands	7.1	7.9	6.5	7.9	9.0	7.5	6.6	7.1	7.1	6.9	6.5	7.1
Manager, assistant	7.6	6.5	6.7	6.5	6.0	4.7	5.8	5.9	6.5	7.2	5.9	6.2
Working with machinery	6.7	8.6	6.9	8.6	9.0	6.5	5.2	4.9	3.1	6.7	5.4	5.9
Owner	6.1	6.9	7.4	6.9	8.8	5.5	6.1	4.4	5.1	7.1	5.8	5.8
Working for a weekly, monthly salary	5.9	6.3	6.1	6.3	7.5	5.6	5.8	5.5	6.3	6.2	5.4	5.8
Working foreman	6.1	5.8	5.1	5.8	6.3	6.1	4.9	5.2	3.8	6.4	4.9	5.3
Working for an hourly wage	5.4	5.6	5.0	5.6	8.0	5.3	4.5	5.2	5.0	5.9	5.6	5.3
Supervision of others	5.6	4.9	4.9	4.9	4.8	5.1	5.0	5.1	5.4	5.0	4.5	5.0
40-hour work week or less	3.9	4.4	4.7	4.4	6.5	4.2	4.7	4.1	5.9	4.9	5.9	4.7
Educational or promotional work	3.7	4.9	4.6	4.9	3.8	3.9	4.2	3.8	3.8	4.1	4.3	4.1
Office work	4.0	3.3	4.3	3.3	3.0	2.2	2.4	2.6	2.3	2.4	3.7	3.0
Sales work, in a business	5.2	4.2	4.0	4.2	3.3	2.3	1.7	1.8	1.5	3.5	3.0	2.9
Sales work, on the road	4.6	4.6	3.0	4.6	3.0	2.1	1.7	1.7	1.5	2.6	3.1	2.7

[a]Based on a mean from a nine-point scale, nine indicating most desirable.

Technical program grade point average

Technical school grade reports on 147 of the second-year students graduating in 1971 revealed an accumulative average of 2.76--about the same as for previous classes. Grade point averages varied by program as can be seen in Table 18.

TABLE 18

TECHNICAL SCHOOL GRADE POINT AVERAGES OF STUDENTS IN TECHNICAL AGRICULTURE PROGRAMS

Program	N	GPA[a]
Agri-Business		
Clark County	15	2.83
Penta	22	2.97
Agri-Management & Accounting	14	2.95
Agri-Equipment	16	2.65
Forestry	25	2.74
Horticulture	7	2.98
Natural Resources	15	2.80
Recreation & Wildlife	19	2.63
Water Pollution	14	2.59
All Programs	147	2.76

[a]GPA calculated on a four-point scale.

Variables affecting technical school success

Seven variables were correlated with technical school success as

measured by grade point average. As viewed in Table 19, high school class rank (-.15), English grades (-.14), grade point average (-.08), I.Q. (-.08), science grades (-.06), mathematics grades (-.05), and high school vocational agriculture grades (-.01) are non-significant correlations that vary considerably from all previous studies which found generally high correlations with English grades and high school class rank rated higher among the variables.

TABLE 19

ASSOCIATION OF SELECTED VARIABLES WITH SUCCESS IN TECHNICAL AGRICULTURE PROGRAMS AS MEASURED BY GRADE POINT AVERAGE

Variable	N	r[a]
High School Class Rank	111	-.15
High School English GPA[b]	142	-.14
High School GPA	141	-.08
Intelligence Quotient	44	-.08
High School Science GPA	141	-.06
High School Mathematics GPA	140	-.05
High School Vocational Agriculture GPA	65	-.01

[a]r=Pearson's Product Moment Correlation Coefficient

[b]GPA=Grade Point Average

Employment during technical school

Nearly 62 per cent of all technical agriculture students were employed for an average of twenty-six hours per week and twenty-nine weeks per year. During the intervening summer, 75 per cent were employed--mostly in full time jobs--for about 44 hours per week for 17 weeks. These figures vary from the 90 per cent employment of last year. Table 20 reports numbers employed and time spent on the job; Table 21 shows the types of jobs held. Table 22 records student rating of the value of summer employment experiences. Work in an agricultural occupation was considered most valuable and non-agricultural employment least valuable. This is consistent with previous findings.

TABLE 20

NUMBER OF STUDENTS EMPLOYED AND TIME SPENT WORKING WHILE ENROLLED IN TECHNICAL AGRICULTURE PROGRAMS

Program	Time Period	Number Reporting No Employment	Number Employed Part-time	Number Employed Full-time	Mean Hrs./ Week	Mean Weeks per Year
Agri-Business						
Clark County	1st Year	2	8	0	20.0	31.4
	2nd Year	0	3	8	48.3	24.8
	Summer	1	9	0	21.1	19.6
Penta	1st Year	3	14	3	29.9	30.4
	2nd Year	1	2	17	48.5	21.4
	Summer	1	14	4	35.0	29.5
Agri-Management & Accounting	1st Year	4	12	3	28.0	31.7
	2nd Year	2	0	17	50.7	14.5
	Summer	4	12	2	30.5	26.5
Agri-Equipment	1st Year	7	7	0	21.9	29.6
	2nd Year	0	1	15	46.8	26.0
	Summer	6	7	1	21.0	23.9
Forestry	1st Year	11	10	0	30.3	11.2
	2nd Year	3	6	11	39.4	14.4
	Summer	10	7	0	22.0	14.2
Horticulture	1st Year	1	2	2	31.0	38.7
	2nd Year	0	2	4	41.2	23.2
	Summer	0	3	2	33.4	26.0
Natural Resources	1st Year	9	8	0	26.8	31.9
	2nd Year	1	1	14	40.8	12.1
	Summer	8	7	0	21.0	29.4
Recreation & Wildlife	1st Year	12	9	1	20.6	30.8
	2nd Year	4	6	14	39.6	15.2
	Summer	10	8	1	15.0	30.7
Water Pollution	1st Year	4	5	1	25.3	34.8
	2nd Year	1	3	7	42.3	11.1
	Summer	3	3	3	25.0	31.0
All Programs	1st Year	53	75	10	26.3	29.1
	2nd Year	12	24	107	44.3	17.6
	Summer	43	70	13	26.0	26.2

TABLE 21

TYPES OF EMPLOYMENT BY STUDENTS WHILE ENROLLED
IN TECHNICAL AGRICULTURE PROGRAMS

Program	Time Period	Number Employed In: Farming	Agri-Business in Training Area	Other Agri-Business	Non-Agricultural Occupations
Agri-Business					
Clark County	1st Year	0	5	0	3
	2nd Year	0	10	0	0
	Summer	0	5	1	2
Penta	1st Year	1	9	5	1
	2nd Year	1	13	4	1
	Summer	2	11	4	0
Agri-Management & Accounting	1st Year	0	5	6	4
	2nd Year	0	6	4	6
	Summer	0	6	6	3
Agri-Equipment	1st Year	2	4	0	2
	2nd Year	0	14	1	0
	Summer	0	6	1	1
Natural Resources	1st Year	1	1	1	4
	2nd Year	1	3	2	8
	Summer	1	1	1	5
Forestry	1st Year	0	6	0	4
	2nd Year	0	5	0	13
	Summer	0	3	0	3
Horticulture	1st Year	0	4	0	0
	2nd Year	0	6	0	0
	Summer	0	5	0	0
Recreation & Wildlife	1st Year	0	4	0	6
	2nd Year	0	10	2	8
	Summer	0	4	0	5
Water Pollution	1st Year	2	1	0	3
	2nd Year	0	9	0	1
	Summer	0	2	0	4
All Programs	1st Year	6	39	12	27
	2nd Year	2	76	13	37
	Summer	3	43	13	23

TABLE 22

TYPES AND VALUE OF SUMMER EMPLOYMENT BY TECHNICAL AGRICULTURE STUDENTS

Experience	Programs																			
	Agri-Business				Agri-Mgmt./ Acct.		Agri-Equip.		For-estry		Horti-culture		Nat. Res.		Recr. & Wild-life		Water Pollu-tion		All Pro-grams	
	Clark		Penta																	
	N	Mean[a]	N	Mean	N	Mean	N	Mean	N	Mean	N	Mean	N	Mean	N	Mean	N	Mean	N	Mean
Work for other than father in an agricultural occupation	13	8.2	17	6.8	3	8.3	12	7.3	3	6.3	5	7.2	5	4.6	7	7.6	2	7.5	67	7.2
Work on father's farm	12	6.8	13	6.6	16	7.4	9	6.0	10	5.6	--	---	6	5.3	7	6.3	4	3.5	77	6.3
Work on other than father's farm	8	6.8	9	4.8	8	6.8	6	6.3	9	4.8	--	---	6	3.5	10	6.7	3	4.3	59	5.6
Self-employed in an agricultural occupation	4	7.8	5	6.4	1	8.0	2	5.5	2	4.5	--	---	1	1.0	2	2.0	--	---	17	5.6
Work for father in a non-agricultural occupation	4	7.3	4	4.5	--	---	1	4.0	3	5.0	--	---	2	4.5	4	5.3	--	---	18	5.3
Work for other than father in a non-agricultural occupation	4	7.5	6	4.7	10	4.3	1	4.0	8	4.6	1	5.0	9	6.0	17	5.4	4	5.0	60	5.2
Work for father in an agricultural occupation	6	6.0	6	5.0	1	7.0	3	6.0	1	1.0	1	9.0	2	1.0	2	5.0	1	6.0	23	5.2
Self-employed in a non-agricultural occupation	4	6.5	4	6.0	--	---	2	5.5	3	2.7	--	---	1	7.0	2	2.5	--	---	16	5.1
Self-employed as a farmer	5	6.2	4	5.3	4	8.0	1	1.0	2	4.5	--	---	2	1.0	2	1.0	--	---	20	4.9

[a]Mean value based on a nine-point scale, nine being of most value.

Factors influencing students to complete technical school

Students completed their technical programs because they believed it would help in: obtaining more desirable employment, advancing in an occupation, providing a foundation for additional training and education, and beginning at a higher wage. Desire to stay out of the military or to stay in school with friends and inability to obtain a desirable job were given low ratings. The data in Table 23 closely parallel earlier studies.

Influences on selection of a position

Students surveyed in 1971 stated that advancement, working conditions, training opportunities, desire for further education and character of hiring personnel were the major factors in selecting the first position upon completion of their program. Living at home, technical school teachers, parents or friends, and present employers had little influence. Data found in Table 24 closely follow the pattern set in the previous research.

Value of high school courses and activities

In Table 25 are shown student ratings of the value of high school courses in technical school and (estimated) toward future employment. Vocational agriculture was rated highest followed by mathematics, science and English. One notable change from previous research was that vocational agriculture and other vocational courses were adjudged to be more valuable in technical school work than in future jobs.

TABLE 23

FACTORS INFLUENCING STUDENTS TO COMPLETE THE TECHNICAL AGRICULTURE PROGRAM[a]

Factor	Programs									
	Agri-Business		Agri-Mgmt./					Recr. &	Water	All
	Clark N=17	Penta N=20	Acct. N=20	Agri-Equip. N=16	For-estry N=22	Horti-culture N=6	Nat. Res. N=17	Wild-life N=27	Pollu-tion N=11	Pro-grams N=156
Believe it will help in advancing in an occupation	7.4	6.3	6.8	7.1	5.2	6.8	7.0	7.4	7.0	6.8
Believe it will help in obtaining more desirable employment	7.2	5.3	6.3	7.1	5.7	5.2	7.3	7.2	7.1	6.5
Believe it provides a foundation for additional training and education	6.6	6.3	5.7	6.3	5.6	6.3	6.7	6.5	6.7	6.3
Believe the training will help to begin at a higher wage	6.9	6.3	6.0	6.9	4.2	5.5	6.1	5.3	5.8	5.8
Enjoyed the educational experience	5.6	4.9	5.3	5.2	5.2	5.3	6.7	5.6	6.2	5.5
Desire of parents, wife, friends, teachers, or others to complete the program	5.2	3.9	3.7	4.3	3.8	3.2	5.1	3.9	3.8	4.1
Too much pride to quit	3.4	4.3	3.8	3.9	3.9	4.5	3.2	3.3	2.1	3.6
Inability to obtain a desirable job	3.8	3.5	2.6	2.9	4.1	1.5	3.0	2.7	3.5	3.2
Desire to stay in school with your friends	3.9	3.6	2.9	3.0	3.0	1.7	3.4	2.8	2.0	3.0
Desire to stay out of military service	3.0	2.7	3.8	5.1	2.7	2.2	3.4	2.2	1.3	3.0

[a]Mean value based on a nine-point scale, nine being of most value.

TABLE 24

FACTORS OR PERSONS INFLUENCING STUDENTS IN SELECTION OF A POSITION UPON COMPLETION OF TECHNICAL AGRICULTURE PROGRAMS[a]

Influencing Persons or Factors	Programs							
	Agri-Business		Agri-Mgmt./ Acct.	Agri-Equipment	For-estry	Horti-culture	Recr. & Wildlife	All Programs
	Clark N=17	Penta N=20	N=18	N=16	N=22	N=6	N=27	N=126
Opportunity for advancement	7.1	6.2	7.3	7.3	5.5	6.0	6.5	6.5
Desirable working conditions	6.5	6.3	6.8	7.0	6.5	6.4	6.3	6.5
Personality and attitude of person doing the hiring	6.6	6.6	6.7	6.6	5.3	5.2	5.3	6.0
Opportunity for additional training with employing company	6.0	6.1	5.3	6.2	5.3	5.7	6.0	5.8
Desire for further education	5.0	5.7	5.7	5.2	5.1	6.5	6.7	5.7
Rate of pay	5.9	5.6	6.1	6.7	4.7	4.7	5.0	5.5
Opportunity to live at or near home	4.9	4.5	5.6	5.8	4.3	3.3	4.3	4.7
Present technical school teachers	5.5	4.1	3.6	4.2	4.0	4.0	4.7	4.3
Influence of parents, wife, relatives or friends	5.1	3.7	4.1	4.3	4.0	2.6	3.9	4.1
Present employer	4.1	3.9	3.8	4.1	2.9	3.0	2.6	3.5

[a]Values are a mean of a nine-point scale with nine indicating major influence.

TABLE 25

VALUE OF HIGH SCHOOL COURSES AS REPORTED BY STUDENTS IN TECHNICAL AGRICULTURE PROGRAMS

High School Course	Number of Students Responding	Mean Value[a] in: Technical School	Mean Value[a] in: Future Employment
Vocational Agriculture	83	6.6	6.8
Mathematics	126	5.9	6.2
Science	123	5.5	5.9
English	127	5.2	5.5
Commercial courses: typing, bookkeeping, etc.	95	4.8	5.3
Other Vocational Subjects	68	4.6	5.0
Social Studies	121	4.3	4.4
Foreign Language	43	2.2	2.7
Other	18	6.7	---

[a]Mean value from a nine-point scale, nine indicating major value.

Students rated being an officer or member of the FFA as above average in both school and job categories while music and student council acitivities were of lowest value. Debate and other speech activities were given lower value by 1971 students than past student ratings. Table 26 discloses mean ratings accrued by the various activities.

Evaluation of technical programs

Six general aspects of technical agriculture programs were rated by students in terms of expected value to their future employment. As

in the past, on-the-job training, contact with other students and class-work in agriculture were cited as most valuable, while counseling by faculty and school social activities were least important. Specific ratings by program may be seen in Table 27.

TABLE 26

VALUE OF HIGH SCHOOL ACTIVITIES AS REPORTED BY STUDENTS IN TECHNICAL AGRICULTURE PROGRAMS

High School Activity	Number of Students Responding	Mean Value[a] in: Technical School	Mean Value[a] in: Future Employment
Officer--FFA	50	5.9	5.3
Member--FFA	69	5.9	5.2
Student Council	29	3.6	3.1
Debate, Forensics, Drama, etc.	43	3.5	3.4
Music, Band, Choir, etc.	52	3.1	3.3
High School Class Officer	28	3.7	3.4
Athletic Team	75	4.8	4.5
Other Activity Member	28	4.5	4.0

[a]Mean value from a nine-point scale, nine indicating major value.

Tables 28 through 34 reveal student ratings of individual courses within each program. Courses on the technical subject were generally rated higher than related course work, as was found true in the past. Nearly all courses were seen by students to be valuable in later work.

TABLE 27

VALUE[a] OF SELECTED PHASES OF THE TECHNICAL AGRICULTURE PROGRAM AS RATED BY STUDENTS

Phase of Program	Programs									
	Agri-Business		Agri-Mgmt./ Acct.	Agri-Equip.	For-estry	Horti-culture	Nat. Res.	Recr. & Wild-life	Water Pollu-tion	All Pro-grams
	Clark N=17	Penta N=20	N=20	N=15	N=21	N=6	N=17	N=25	N=11	N=152
On-the-job training	8.5	7.2	4.1	7.8	5.3	6.7	6.3	6.4	7.6	6.5
Classwork in agriculture	6.8	5.8	7.1	6.3	4.9	4.8	5.8	5.5	4.1	5.8
Contact with other students with similar interests	5.9	5.9	5.3	6.0	4.5	6.0	6.4	5.6	6.2	5.7
Classwork other than agriculture	5.6	4.3	5.5	4.9	5.6	5.2	6.2	6.2	6.4	5.6
Individual counseling by faculty	5.3	4.4	3.2	5.0	4.0	4.0	4.3	4.3	4.7	4.3
School clubs and social activities	4.4	2.6	2.1	3.3	3.5	4.6	4.2	3.2	3.3	3.3

[a]Mean value based on a nine-point scale, nine being of most value.

TABLE 28

EXPECTED VALUE OF COURSES IN THE AGRI-BUSINESS (CLARK) PROGRAM TO FUTURE EMPLOYMENT AS RATED BY 16 STUDENTS

Course	Mean Value[a]	Course	Mean Value[a]
Agri-Business Management	7.7	Farm Crops	6.6
Feeds & Feeding	7.3	Agricultural Economics	6.6
Introduction to Agri-Business	7.2	Personnel Problems	6.5
Credit & Finance	7.0	Business Machines Operations	6.4
Marketing & Agricultural Products	6.9	Mathematics	6.3
Retail Merchandising	6.9	Communications	6.3
Salesmanship	6.8	Accounting	6.3
Livestock Management	6.7	Soil Science	6.2
		Economics	5.7

[a]Values are a mean from a nine-point scale, nine indicating major value.

TABLE 29

EXPECTED VALUE OF COURSES IN THE AGRI-BUSINESS (PENTA) PROGRAM TO FUTURE EMPLOYMENT AS RATED BY 18 STUDENTS

Course	Mean Value[a]	Course	Mean Value[a]
Farm Crops	7.5	Economics	5.8
Soil Science	7.3	Mathematics	5.7
Livestock Management	6.3	Communications	5.3
Marketing Agricultural Products	6.1	Introduction to Agri-Business	5.2
Feeds & Feeding	5.9	Business Machines Operations	5.2
Accounting	5.9	Credit & Finance	5.2
Agri-Business Management	5.9	Personnel Problems	4.3
Agricultural Economics	5.9	Salesmanship	4.3
		Retail Merchandising	4.2

[a]Values are a mean from a nine-point scale, nine indicating major value.

TABLE 30

EXPECTED VALUE OF COURSES IN THE AGRI-EQUIPMENT PROGRAM TO FUTURE EMPLOYMENT AS RATED BY 16 STUDENTS

Course	Mean Value[a]	Course	Mean Value[a]
Farm Machinery	7.1	Agri-Business Management	5.8
Farm Power	6.9	Introduction to Agri-Business	5.6
Farmstead Power and Equipment	6.8	Soils and Crops	5.6
Mathematics	6.2	Accounting	5.5
Credit and Finance	6.1	Agricultural Economics	5.5
Merchandise and Sales-manship	6.0	Farm Structures	5.3
Personnel Problems	6.0	Communications	5.3
		Drawing	5.1

[a]Values are a mean from a nine-point scale, nine indicating major value.

TABLE 31

EXPECTED VALUE OF COURSES IN THE AGRICULTURAL MANAGEMENT AND ACCOUNTING PROGRAM TO FUTURE EMPLOYMENT AS RATED BY 20 STUDENTS

Course	Mean Value[a]	Course	Mean Value[a]
Farm Crops	6.9	Agricultural Economics	5.7
Livestock Management	6.8	Mathematics	5.5
Soil Science	6.6	Agricultural Survey	5.3
Feeds & Feeding	6.4	Marketing Agricultural Products	5.2
Accounting	6.2	Business Machines Operation	5.0
Economics	6.1	Salesmanship	5.0
Credit and Finance	6.0	Agri-Business Management	4.9
Human Relations	5.8	Retail Merchandising	3.9
Communications	5.7		

[a]Values are a mean from a nine-point scale, nine indicating major value.

TABLE 32

EXPECTED VALUE OF COURSES IN THE FORESTRY PROGRAM TO FUTURE EMPLOYMENT AS RATED BY 22 STUDENTS

Course	Mean Value[a]	Course	Mean Value[a]
Dendrology	7.9	Technical Report Writing	6.1
Silviculture	7.3	Communications	6.0
Forest Management	7.1	Lumber Grading	6.0
Mensuration	6.9	Geology and Soils	6.0
Forest Protection	6.9	Speech	5.9
Reforestation	6.9	Botany	5.9
Mathematics	6.8	Introduction to Forestry	5.5
Surveying	6.7	Technical Drawing	5.5
Photo Interpretation	6.6	Economics	5.1
Forest Products Utilization	6.6	Accounting	3.7
Timber Harvesting	6.5	Government	3.4
Wildlife Management	6.5	Psychology	3.2

[a]Values are a mean from a nine-point scale, nine indicating major value.

TABLE 33

EXPECTED VALUE OF COURSES IN THE HORTICULTURE PROGRAM TO FUTURE EMPLOYMENT AS RATED BY 6 STUDENTS

Course	Mean Value[a]	Course	Mean Value[a]
Equipment Technology	7.7	Communications	6.0
Plant Identification & Ecology	7.5	Principles of Landscape Design	5.7
Soil Science	7.2	Drainage & Irrigation	5.5
Management of Horticultural Industries	6.7	Horticulture Industries	5.3
Mathematics	6.7	Business Principles	5.3
Horticulture Science	6.7	Accounting	5.0
Plant Pathology and Entomology	6.5	Horticulture Industries Economics	4.8
Human Relations	6.3	Horticulture Chemistry	4.8
Labor Supervision	6.3		

[a]Values are a mean from a nine-point scale, nine indicating major value.

TABLE 34

EXPECTED VALUE OF COURSES IN THE NATURAL RESOURCES CONSERVATION PROGRAM TO FUTURE EMPLOYMENT AS RATED BY 15 STUDENTS

Course	Mean Value[a]	Course	Mean Value[a]
Forest Management	7.2	Game Management Techniques	6.1
Soil Fertility and Plant Growth	7.1	Methods of water purification	5.9
Surveying	6.9	Technical Drawing	5.7
Botany	6.9	Fish Management	5.5
Pollution and Natural Resources	6.8	Chemical Techniques in Water Testing	5.3
Introduction to Natural Resources Conservation	6.8	Communications	5.3
Mathematics	6.6	Sociology	4.7
Natural Resources Recreation	6.5	Economics	4.3
Aerial Photo Interpretation	6.5	Introduction to Data Processing	4.3
Biology	6.4	Physiology	4.2
Physical Science	6.3	Seminar on Work Experience	4.1
Introduction to Wildlife Management	6.2	Orientation to Employment	3.9
Operation and Maintenance of Equipment	6.1	Study Techniques	3.5

[a]Values are a mean from a nine-point scale, nine indicating major value.

TABLE 35

EXPECTED VALUE OF COURSES IN THE RECREATION AND WILDLIFE PROGRAM TO FUTURE EMPLOYMENT AS RATED BY 27 STUDENTS

Course	Mean Value[a]	Course	Mean Value[a]
Field Biology	7.7	Introduction to Recreation	5.9
Wildlife Management	7.3	Archaeology	5.9
North American Wildlife	7.3	Map & Aerial Photo Interpretation	5.8
Botany	7.2	Dendrology	5.8
Recreation & Wildlife Plantings	6.9	Fire Control	5.7
Speech	6.7	State & Federal Government	5.3
Mathematics	6.7	Surveying	5.3
Nature Interpretation	6.6	Introduction to Forestry	5.3
Management of Recreation Areas	6.5	Frontier History	5.0
Communications	6.4	Recreation Management Seminar	5.0
Geology	6.2	Technical Drawing	4.9
Maintenance of Recreation Areas	6.1		

[a]Values are a mean from a nine-point scale, nine indicating major value.

TABLE 36

EXPECTED VALUE OF COURSES IN THE WATER POLLUTION CONTROL PROGRAM TO FUTURE EMPLOYMENT AS RATED BY 11 STUDENTS

Course	Mean Value[a]	Course	Mean Value[a]
Water Sampling	7.6	Aquatic Biology	5.8
Chemistry	7.3	Botany	5.6
Mathematics	7.1	Surveying	5.5
Chemical Techniques in Testing Water	7.1	Forestry and its Effect on Air and Water Pollution	5.4
Methods of Water Purification	7.1	Psychology	5.0
Communications	6.9	Use of Aerial Photography in Water	5.0
Planning Water Pollution Control	6.9	Sociology	4.8
Introduction to Water Pollution	6.5	Interrelationship of Wildlife and Water Pollution	4.5
Economic Aspects of Water Quality	6.2	Water Pollution Control Laws	4.4
Strip Mining and Water	6.1	Essentials of Geography	3.6
Soil Water Pollution	6.0	Orientation to Equipment	3.3
Water Pollution and its relationship to recreation	6.0	Study Techniques	2.2

[a]Values are a mean from a nine-point scale, nine indicating major value.

Characteristics of graduates

At the end of the spring quarter, 1970, 107 individuals graduated from seven agricultural technician education programs at five technical institutes in Ohio. One year later, program coordinators indicated that 24 were in the military and the status of 14 were unknown. Surveys were sent to the 85 remaining; results from the 76 useable responses are revealed in this section.

Experiences since graduation and present status

Since completion of the technician education program, 38 of the 76 respondents reported employment as an agricultural technician and

37 said they worked in other jobs. Average time worked was 9.1 months. Nearly 20 per cent indicated they had put in some military service while only seven graduates reported any further education. These figures are nearly the same as for the past year. Table 37 lists experiences by program.

If the 20 graduates known to have been in the military were combined with the fifteen indicating shorter periods of service during the year after graduation, it can be seen that 36 per cent of the 1970 graduates went into the military during the first year after finishing technician school. Even more would probably have shown up in the service if complete information from all technologies were available. Using information from program directors and graduate responses, Table 38 gives the status of all graduates one year after completing their respective programs. Sixty-five per cent of all graduates not in the military were employed in off-farm agricultural occupation--which is below the 70% as in the past. Only about one-third had done prior work for their present employer as reported in Table 39. This is the same as expressed by 1969 graduates.

Starting salaries, income one year after graduation and earnings progression for the 1970 graduates are tabulated in Table 40. Starting salaries after graduation averaged between 405 to 478 dollars; after one year, salaries averaged 487 to 550 dollars per month with an average monthly increase of $10.50 to $32.75. In the above cases, graduates reported the higher averages than employers--probably because they included commissions. Although varing responses make comparisons difficult, it can be seen that Forestry graduates received the highest starting wages. Nearly all figures are higher than those for the 1969 graduates.

TABLE 37

REPORTED EXPERIENCES OF TECHNICAL AGRICULTURE STUDENTS SINCE GRADUATING AS TECHNICIANS

Experience	Agri-Business Clark N=15	Agri-Business Penta N=19	Agri-Equipment N=13	Food Processing N=2	Forestry N=10	Horticulture N=6	Recr. & Wildlife N=11	All Programs N=76
Employment as an Agricultural Technician	12	7	8	1	5	2	3	38
Other Employment	2	9	8	1	9	1	7	37
Unemployment	0	1	1	0	4	2	2	10
Military Service	2	4	3	0	1	0	5	15
Further Education	2	0	2	1	1	0	1	7

TABLE 38

REPORTED STATUS OF 1970 GRADUATES FROM TECHNICAL AGRICULTURE PROGRAMS AFTER ONE YEAR

Present Status	Agri-Business Clark N=15	Agri-Business Penta N=19	Agri-Equipment N=13	Food Processing N=2	Forestry N=10	Horticulture N=6	Recr. & Wildlife N=11	All Programs N=76
Agricultural Occupations	13	4	9	2	5	3	5	41
Farming	--	6	1	--	--	--	1	8
Non-Agricultural Occupations	--	5	--	--	4	--	3	12
Military Service	2	4	3	--	1	1	2	13
Unknown	--	--	--	--	--	2	--	2

TABLE 39

PRIOR EMPLOYMENT WITH PRESENT EMPLOYER AS REPORTED BY TECHNICAL AGRICULTURE GRADUATES

Program	Number Employed	Number With Same Employer Prior to Graduation	Per cent
Agri-Business			
Clark County	15	7	46.6
Penta	19	7	36.9
Agri-Equipment	13	4	30.7
Food Processing	2	1	50.0
Forestry	10	2	20.0
Horticulture	6	2	33.3
Recreation & Wildlife	11	4	36.3
All Programs	76	27	35.5

TABLE 40

STARTING AND PRESENT SALARIES, EARNINGS PROGRESSION[a]
OF GRADUATES FROM TECHNICAL AGRICULTURE PROGRAMS

Salaries/Earnings Progression	Agri-Business		Agri-Equipment	Food Processing	For-estry	Horti-culture	Recr. & Wildlife	All Programs
	Clark	Penta						
Reported by Graduates								
Starting Salary	N=12 $479.17	N=10 $400.00	N=10 $356.00	N=1 $600.00	N=8 $304.75	N=2 $312.50	N=4 $307.50	N=47 $405.66
Present Salary	N=12 $510.58	N=10 $490.10	N=9 $469.88	N=1 ---	N=9 $393.33	N=3 $623.33	N=4 $476.50	N=48 $487.00
Reported by Employer								
Starting Salary	N=8 $505.50	N=7 $430.42	N=4 $501.25	N=1 $500.00	N=7 $529.71	N=1 $472.00	N=4 $387.50	N=32 $477.88
Present Salary	N=9 $609.33	N=8 $512.12	N=4 $571.25	N=1 $545.00	N=7 $556.85	N=1 $560.00	N=3 $425.00	N=33 $549.81
Earnings Progression								
Graduate Report	$ 3.50	$ 10.00	$ 12.70	---	$ 8.40	$ 44.40	$ 21.10	$ 11.10
Employer Report	$ 11.50	$ 9.10	$ 7.80	$ 8.20	$ 2.60	$ 12.60	$ 4.70	$ 9.90

[a]Earnings Progression equals present salary minus starting salary divided by number of months worked.

Job satisfaction

Nearly 2/3 of the respondents reported holding the same job since first becoming employed. Major reasons given for leaving were: more pay, to secure a better position and because of being laid off.

Table 41 discloses the responses 67 graduates gave to the question, "were you satisfied with this position?"; 48 were either "satisfied" or "very satisfied" while 19 were "dissatisfied". This indication of job stability is similar to that found by the previous research.

Graduate evaluation of preparation

Graduates rated, 1-2-3, the value of certain previous experiences to their present position. Other employment was rated most valuable (1.30) by five graduates; farm experience and technical school education received a 1.40 rating. All other experiences ranked lower in value. These data are presented in Table 42.

TABLE 41

TECHNICAL AGRICULTURE GRADUATE SATISFACTION WITH PRESENT JOB

Level of Satisfaction	Agri-Business Clark N=15	Penta N=16	Agri-Equipment N=11	Food Processing N=1	For-estry N=10	Horti-culture N=4	Recr. & Wildlife N=10	All Programs N=67
Very Satisfied	5	5	4	0	4	2	4	24
Satisfied	7	9	3	0	2	0	3	24
Dissatisfied	2	1	4	1	2	1	1	12
Very Dissatisfied	1	1	0	0	2	1	2	7

TABLE 42

VALUE OF PREVIOUS EXPERIENCES TO TECHNICAL AGRICULTURE PROGRAM GRADUATES

Previous Experience	Total Number of Times Ranked	Number of Times Ranked			
		1st	2nd	3rd	Rank Mean[a]
Other employment	45	7	21	17	2.20
Farm experience	56	38	13	5	1.40
Technical school education	64	42	18	4	1.40
Other	7	5	2	0	1.30
Company educational programs	29	16	10	3	1.50
Other agricultural employment	43	18	19	6	1.70
High school education	63	33	27	3	1.50
College education	36	17	10	9	1.70
Youth leadership activities	42	16	18	8	1.80

[a]Rank mean was calculated by multiplying first place ranks by one, second place ranks by two, third place ranks by three, totaling and dividing by the number of times the experience was ranked.

As pointed out in Table 43 graduates thought on-job training, contact with other students and technical classwork were the best parts of technical school. Faculty counseling, and general classes were of moderate value while social activities were regarded as having little value. Similar findings were reported in past studies.

Out of 63 respondents 48 or 76 per cent indicated they would re-enroll if they had it to do over again. These figures, which compare closely with those of earlier classes, can be seen in Table 44. Some of those who said they would not re-enroll indicated their desire for a four-year degree.

TABLE 43

VALUE OF SELECTED ASPECTS OF TECHNICAL AGRICULTURE PROGRAMS AS RATED BY GRADUATES[a]

Selected Aspects	Agri-Business Clark N=15	Agri-Business Penta N=19	Agri-Equipment N=13	Food Processing N=2	Forestry N=10	Horticulture N=6	Recr. & Wildlife N=11	All Programs N=76
On-job training	7.8	4.9	6.3	7.5	6.1	5.5	6.3	5.9
Contact with other students with similar interests	5.9	5.1	5.0	3.0	5.7	4.7	4.1	4.7
Classwork in agriculture and natural resources	6.3	5.1	5.1	4.0	5.8	4.0	5.4	5.1
Individual counseling by faculty	6.1	4.0	5.0	3.0	3.8	4.3	3.4	4.2
Classwork other than agriculture	5.3	5.2	4.4	6.5	4.8	4.3	4.1	4.6
School clubs and social activities	4.0	3.5	3.5	2.5	3.3	1.7	2.3	3.0

[a]Values are means from a nine-point scale, nine indicating major value.

TABLE 44

NUMBER OF GRADUATES WHO REPORTED THAT THEY WOULD AGAIN ENROLL IN THE TECHNICAL AGRICULTURE PROGRAM FROM WHICH THEY GRADUATED

Responses	Agri-Business Clark N=15	Penta N=15	Agri-Equipment N=8	Food Processing N=2	For-estry N=9	Horti-culture N=4	Recr. & Wildlife N=10	All Programs N=63
Yes	12	11	7	1	6	4	7	48
No	3	4	1	1	3	0	3	15

TABLE 45

GRADUATES' SELF-RATING AS BEGINNING AGRICULTURAL TECHNICIANS

Rating	Agri-Business Clark N=15	Penta N=14	Agri-Equipment N=13	Food Processing N=2	For-estry N=9	Horti-culture N=3	Recr. & Wildlife N=10	All Programs N=64
Superior	3	1	1	0	1	2	1	9
Above Average	6	5	8	2	4	1	6	33
Average	6	8	2	0	4	0	3	23
Below Average	0	0	0	0	0	0	0	0
Very Poor	0	0	0	0	0	0	0	0

Employer responses concerning graduates from technical agriculture programs

The preceding section recorded the characteristics of graduates and their evaluations of programs and preparation. This section deals with the views of their employers.

Employer rating of graduates

Most employers rated their graduate-employees above average. As listed in Table 46, twenty-two graduates (75 per cent) were rated above average, eight were placed in each of the superior and average ratings and one was placed in the below average category. The mean rating was 3.9 which corresponded closely to previous figures.

Forty employers rated the job skills of graduate employees, as revealed in Table 47. All graduates were considered to be average in skills appropriate to their technologies, a finding similar to that in preceding studies. Employer approval was further substantiated by the willingness of all respondents to hire other graduates. Eight or twenty-two per cent expressed some reservations. Responses by program area are exhibited in Table 48.

Anticipated Income

Employers indicated that after five years on the job, graduates would be earning from $5,500 to over $14,000 per year. Most, or about 70 per cent would be in the $7,000 to $11,000 a year brackets. This appears to be consistent with the findings reported in past studies. Expected income for graduates of the seven programs is listed in Table 49.

TABLE 46

RATING OF TECHNICAL AGRICULTURE PROGRAM GRADUATES BY THEIR EMPLOYERS

Rating	Agri-Business Clark N=10	Penta N=8	Agri-Equipment N=6	Food Processing N=1	For-estry N=8	Horti-culture N=1	Recr. & Wildlife N=5	All Programs N=40
Superior	4	1	1	0	0	1	1	8
Above Average	4	5	3	1	5	0	4	22
Average	2	2	1	0	3	0	0	8
Below Average	0	0	1	0	0	0	0	1
Very Poor	0	0	0	0	0	0	0	0
Mean Rating[a]	4.2	3.0	3.7	4.0	3.6	5.0	4.2	3.9

[a]Based on a five-point scale; 5=Superior, 4=Above Average; ... 1=Very Poor.

TABLE 47

LEVEL OF TECHNICAL AGRICULTURE GRADUATE JOB SKILLS AS RATED BY THEIR EMPLOYER

Job Skills	Agri-Business Clark N=10	Penta N=7	Agri-Equipment N=6	Food Processing N=1	Forestry N=8	Horticulture N=1	Recr. & Wildlife N=7	All Programs N=40
Orderliness	6.4	6.9	6.8	7.0	5.9	8.0	6.2	6.1
Use of English	6.4	6.1	6.2	5.0	5.1	7.0	5.6	5.6
Speech, ability to convey ideas	6.1	6.0	5.7	5.0	5.0	7.0	6.4	5.5
Knowledge of merchandise	6.9	N=5 7.4	5.7	---	4.5	8.0	5.8	5.3
Mechanical aptitude	6.6	N=5 6.8	6.3	9.0	4.4	8.0	3.4	5.2
Mathematical ability	6.4	5.9	5.3	7.0	3.9	6.0	3.4	5.0
Written Communications	5.1	6.0	5.3	4.0	5.0	6.0	3.4	4.8
Salesmanship	6.4	N=6 6.3	4.8	---	2.1	7.0	2.2	4.2

TABLE 48

WILLINGNESS OF EMPLOYERS TO HIRE OTHER GRADUATES
FROM TECHNICAL AGRICULTURE PROGRAMS

Responses	Agri-Business Clark N=10	Penta N=8	Agri-Equipment N=5	Food Processing N=1	For-estry N=6	Horti-culture N=1	Recr. & Wildlife N=5	All Programs N=36
Yes	5	7	2	1	6	1	4	28
Yes, with reservations	5	1	3	0	--	0	1	8
No	0	0	0	0	--	0	0	0

TABLE 49

ANTICIPATED INCOME OF GRADUATES FIVE YEARS AFTER COMPLETION
OF THE TECHNICAL AGRICULTURE PROGRAMS AS REPORTED BY EMPLOYERS

Anticipated Annual Income	Agri-Business Clark N=9	Agri-Business Penta N=7	Agri-Equipment N=6	Food Processing N=1	Forestry N=7	Horticulture N=1	Recr. & Wildlife N=3	All Programs N=34
Under $5,999	0	1	1	0	1	0	1	4
$6,000-$6,999	0	1	0	0	1	0	0	2
$7,000-$7,999	2	1	1	0	2	0	0	6
$8,000-$8,999	0	0	3	0	1	1	1	6
$9,000-$9,999	2	3	0	1	0	0	1	7
$10,000-$10,999	3	1	0	0	1	0	0	5
$11,000-$11,999	0	0	0	0	0	0	0	0
$12,000-$12,999	1	0	1	0	0	0	0	2
$13,000-$13,999	0	0	0	0	0	0	0	0
Over $14.000	1	0	0	0	1	0	0	2

Employment record

While attending technical school, fourteen of the respondents had worked part-time and two full-time. Seven had not been employed. After leaving technical school six entered the military and one attended another educational institution. Nine dropouts reported a beginning salary of $301.44 while thirteen indicated present salary was $407.30. Both averages were considerably below that of the beginning graduates. Most dropouts were employed in non-agricultural business or industry; two are presently working on farms.

Reasons for dropping out

A variety of reasons were given for discontinuing the programs, but the four major causes were: 1. the program did not offer what was desired; 2. lack of money; 3. low grades; and 4. military service. When asked if they thought dropping out was a good idea, fourteen said yes.

The above not withstanding, eight of the dropouts said the course they had in technical school was helpful to them; four indicated it was of "little help" and four declared classes of "no help". In response to the question, "what can be done to reduce the number of students who leave Ohio technical education programs prior to graduation?", six dropouts urged improved curriculums and teaching, two suggested reducing costs to students, four indicated lack of a part-time job and two recommended educating employers to the value of technical education. Two dropouts said they were interested in re-enrolling and finishing their degree.

Training Provided

Almost twice as many employers provided on-the-job training than who gave formal instruction, as evidenced in Table 50. Generally, limited special training was provided by employers. Employers commented that graduates need to develop: mature follow-through, personal and job organizational abilities, improved ways of dealing with people, better communication, and the realization that increased employee income comes from increasing company profit.

TABLE 50

ON-THE-JOB AND FORMAL INSTRUCTION PROVIDED GRADUATES OF TECHNICAL AGRICULTURE PROGRAMS BY EMPLOYERS

Program	On-the-Job Instruction Number of Graduates	Formal Instruction Number of Graduates
Agri-Business	8	5
Agri-Equipment	2	0
Food Processing	1	1
Forestry	3	2
Horticulture	0	0
Recreation & Wildlife	2	1
All Programs	16	9

Dropout Response

This section is based on useable surveys from 26 students who discontinued their technical education during the 1970-71 school year. These individuals had attended technical school for a period from 6 to 24 months with 12 months as average attendance.

General traits, abilities and understandings

This section reviews the general traits, abilities and understandings of students and graduates as rated by themselves and their employers.

General Traits

Second year students and 1970 graduates rated themselves on 12 general personality traits; employers also rated the graduates on a similar scale. As indicated in Table 51, students and graduates rated above average in all attributes. Employers tended to rate graduates slightly higher than graduates rated themselves. All respondents agreed that students and graduates were high in integrity, dependability, cooperation and courtesy and friendliness; they were also in agreement that judgment and leadership were of lower quality.

General abilities and understandings

Students reacted to a list of 15 general abilities by providing the self-ratings shown in Table 52. Although considerable variation occurred between programs, five items--arithmetic problem ability, comprehension, telephone communication, reading and human relations--were rated high and the abilities to do accounting, analyze financial statements, recommend credit and dictate letters were rated lowest.

Table 53 provided insight into the level of understanding students feel they have developed while enrolled in the technical agriculture programs. There was little agreement among programs but most students did indicate that their general understandings of most areas was above "average", thereby suggesting that the preparation received at technical school was

adequate in providing the necessary understandings listed.

Preparation in technical abilities and understandings

This section reports on the specific abilities and understandings involved with each agricultural technology. Self evaluations were made by students just prior to graduation.

Preparation in technical abilities

Tables 54 through 62 include student ratings of the important technical abilities listed by staff members. In most cases students felt they were adequately prepared but nearly all programs had several abilities which were not well developed in participants.

Preparation in technical understandings

Students about to graduate from seven technologies rated themselves on a number of technical understandings selected as important by staff members. The resultant average scores are given by program in Tables 63 through 71. Students felt the general level of their understandings to be somewhat less than their technical abilities. Once again, each program has some understandings in which students indicated lack of competency.

TABLE 51

GENERAL TRAITS OF STUDENTS AND GRADUATES
OF TECHNICAL AGRICULTURE PROGRAMS[a]

General Traits	As Rated By Employers N=40	Graduates N=76	Students N=156
INTEGRITY: Trustworthiness, honesty, loyalty	7.1	6.3	7.4
RESPONSIBILITY: Willingness with which work is accepted and performed	6.7	5.9	7.2
DEPENDABILITY: Promptness, reliability in attendance	6.6	6.0	7.2
COURTESY AND FRIENDLINESS: Consideration and kindness toward others	6.6	6.0	7.2
PERSONAL APPEARANCE: Neatness, cleanliness, appropriate dress and grooming	6.5	5.5	7.1
ATTITUDES TOWARD WORK: Degree of enthusiasm with which one performs his work	6.4	5.5	7.0
COOPERATION: Ability to work with others	6.4	6.1	7.2
EMOTIONAL STABILITY: Poise and self-control	6.2	5.4	6.9
POTENTIALITIES: Ability to meet and to apply one's self to new situations	6.0	5.6	6.8
INITIATIVE: Ability to plan and direct one's own work	5.7	5.7	6.7
JUDGMENT: Ability to make sound, accurate decisions	5.4	5.6	6.6
LEADERSHIP: Qualities of understanding people and directing work of others	5.3	5.5	6.4

[a]Values are a mean from a nine-point scale, nine indicating highest rating.

TABLE 52

PREPARATION OF TECHNICAL AGRICULTURE STUDENTS IN GENERAL ABILITIES[a]

General Abilities	As Rated by Students in: Agri-Business Clark N=17	Agri-Business Penta N=20	Agri-Equipment N=16	Ag. Mgt. & Accounting N=19	Forestry N=22	Horticulture N=6	Recr. & Wildlife N=27	All Programs N=127
Do basic arithmetical problems	6.4	6.7	6.3	7.3	6.8	7.0	6.6	6.7
Listen and comprehend what you hear	6.4	6.3	6.2	6.5	6.2	5.4	6.4	6.3
Communicate on the telephone	6.6	6.6	5.7	6.3	6.0	6.2	6.4	6.3
Use good human relations techniques in speaking and writing	6.2	6.4	5.7	6.2	6.1	6.0	6.0	6.1
Read with understanding	6.3	6.0	5.5	6.0	6.3	5.5	6.4	6.1
Supervise employees	6.6	6.3	5.3	6.3	5.9	6.2	5.8	6.0
Use proper grammar	6.4	6.0	5.3	6.1	5.9	6.2	5.3	5.8
Spell	5.1	5.9	5.2	5.3	5.7	5.7	6.2	5.6
Use parliamentary procedures	6.5	6.5	5.3	6.2	4.8	5.4	4.6	5.5
Speak at staff meetings, sales clinics, etc.	6.1	4.9	4.3	4.9	5.0	5.0	5.3	5.1
Write reports, news releases, sales messages, etc.	5.0	5.0	4.1	5.0	5.2	4.8	5.4	5.0
Dictate letters	5.4	5.5	4.1	5.0	4.7	5.2	4.7	4.9
Analyze and make recommendations on supplying credit to customers	5.8	5.5	4.9	5.1	4.6	4.5	4.1	4.9
Prepare, interpret, and analyze financial statement	5.4	5.3	4.6	5.9	4.8	4.8	3.7	4.9
Do complete accounting	5.2	5.0	4.6	5.5	4.4	4.3	3.9	4.7

[a]Values are a mean from a nine-point scale, nine being highest value.

TABLE 53

PREPARATION OF TECHNICAL AGRICULTURE STUDENTS IN GENERAL UNDERSTANDINGS[a]

General Understandings	As Rated by Students in: Agri-Business Clark N=17	Agri-Business Penta N=19	Agri-Equipment N=16	Ag. Mgt. & Accounting N=20	Forestry N=22	Horticulture N=6	Recr. & Wildlife N=27	All Programs N=127
Problems common to agricultural business	6.3	6.6	6.1	6.8	5.6	5.2	4.6	5.8
Money and banking and their importance in our society	6.0	6.4	5.8	6.4	5.8	5.0	5.3	5.8
Principles of credit	6.0	6.4	6.1	6.4	5.5	4.8	5.1	5.8
Types of economic systems, capitalism, socialism, etc.	5.6	6.2	5.9	6.2	5.6	4.7	5.1	5.7
Consumer demands	6.6	5.9	5.9	6.1	5.1	5.2	5.0	5.7
Supply, demand and pricing of agricultural products	5.9	6.0	5.4	6.7	5.7	5.2	4.5	5.6
Types of agricultural business, independent, corporation, etc.	5.9	6.0	5.6	6.3	5.1	5.7	4.3	5.5
Money management in an agricultural business	6.2	6.1	5.4	6.7	4.9	5.3	4.3	5.5
Principles and functions of advertising	5.9	5.8	5.8	5.7	5.1	5.0	5.1	5.5
Price cycles as they apply to agriculture	5.9	5.6	4.9	6.6	4.7	5.2	4.3	5.3
Government's role in agriculture	5.6	5.9	4.6	6.0	5.1	4.8	4.7	5.2
Principles of merchandising	6.2	5.5	5.3	4.9	4.7	5.0	4.7	5.2
Economic trends which control the buying and selling of merchandise	6.2	5.4	5.1	5.8	4.9	5.0	4.6	5.2
Basic accounting principles	6.1	5.9	5.2	6.2	4.5	3.8	4.2	5.2
Merchandise display	6.2	5.0	5.6	4.1	4.8	5.2	4.7	5.0

[a]Values are a mean from a nine-point scale, nine being highest value.

TABLE 54

PREPARATION OF STUDENTS IN TECHNICAL ABILITIES--AGRI-BUSINESS (CLARK) PROGRAM[a] AS RATED BY 16 STUDENTS

Technical Abilities	Mean Rating	Technical Abilities	Mean Rating
Grade grain	7.2	Retail animal health products	6.1
Operate common office machines	6.8	Direct and control the operations of an agricultural business	6.1
Sell farm supplies and services	6.6	Analyze market trends	6.0
Select, interview, and test prospective employees	6.4	Develop a lime and fertilizer program using soil test results	5.8
Formulate rations	6.3	Hedge farm commodities	5.8
Train, motivate, and evaluate employees	6.3	Identify common weeds and weed seeds	5.6
Calculate proportions necessary for feed and fertilizer mixing operations	6.3	Advise farmers about crop varieties	5.6
Calculate price mark-ups, discounts, etc.	6.3	Recommend tillage practices	5.5
Compute the cost of rations	6.2	Advise farmers about herbicides	5.1
Plan and organize an agricultural business	6.2	Advise farmers about insecticides	4.8

[a]Values are means from a nine-point scale, nine indicating highest value.

TABLE 55

PREPARATION OF STUDENTS IN TECHNICAL ABILITIES--AGRI-BUSINESS (PENTA) PROGRAM[a] AS RATED BY 18 STUDENTS

Technical Abilities	Mean Rating
-Operate common office machines	7.0
-Grade grain	6.7
-Sell farm supplies and services	6.3
-Recommend tillage practices	6.2
-Calculate proportions necessary for feed and fertilizer mixing operations	6.2
-Develop a lime and fertilizer program using soil test results	6.1
-Calculate price mark-ups, discounts, etc.	6.1
-Select, interview, and test prospective employees	5.9
-Train, motivate, and evaluate employees	5.8
-Plan and organize and agricultural business	5.8
-Retail animal health products	5.7
-Advise farmers about herbicides	5.7
-Direct and control the operations of an agricultural business	5.6
-Advise farmers about crop varieties	5.5
-Advise farmers about insecticides	5.3
-Identify common weeds and weed seeds	5.3
-Formulate rations	5.1
-Compute the cost of rations	5.1
-Hedge farm commodities	4.9
-Analyze market trends	4.9

[a]Values are means from a nine-point scale, nine indicating highest value.

TABLE 56

PREPARATION OF STUDENTS IN TECHNICAL ABILITIES--AGRI-EQUIPMENT PROGRAM[a] AS RATED BY 16 STUDENTS

Technical Abilities	Mean Rating
-Recognize normal wear on tractors	6.8
-Recognize safe use of electricity	6.7
-Recommend field machinery to a farmer for a specific farm situation	6.7
-Adjust farm machinery for proper operation	6.4
-Recommend proper type of electric motor for a specific use	6.4
-"Trouble Shoot" a tractor engine	6.3
-Sell farm supplies and services	6.2
-Recommend proper size of electric motor for a specific use	6.0

TABLE 56--Continued

Technical Abilities	Mean Rating
-Sketch and communicate ideas in drawings	5.8
-Interview, select, and test prospective employees	5.7
-Calculate price mark-ups, discounts, etc.	5.6
-Direct and control the operations of an agricultural business	5.4
-Read blueprints and specifications	5.4
-Train, motivate, and evaluate employees	5.3
-Plan and organize an agricultural business	5.2

Values are means from a nine-point scale, nine indicating highest value.

TABLE 57

PREPARATION OF STUDENTS IN TECHNICAL ABILITIES--AGRICULTURAL MANAGEMENT AND ACCOUNTING PROGRAM[a] AS RATED BY 20 STUDENTS

Technical Abilities	Mean Rating
-Operate common office machines	6.9
-Grade grain	6.7
-Identify common weeds and weed seeds	6.4
-Select, interview, and test prospective employees	6.2
-Train, motivate, and evaluate employees	6.2
-Compute the cost of rations	6.0
-Recommend tillage practices	6.0
-Analyze market trends	5.9
-Advise farmers about crop varieties	5.7
-Develop a lime and fertilizer program using soil test results	5.7
-Calculate proportions necessary for feed and fertilizer mixing operations	5.5
-Formulate rations	5.5
-Advise farmers about herbicides	5.3
-Retail animal health products	5.0
-Hedge farm commodities	4.8
-Calculate price mark-ups, discounts, etc.	4.7

[a]Values are means from a nine-point scale, nine indicating highest value.

TABLE 58

PREPARATION OF STUDENTS IN TECHNICAL ABILITIES--FORESTRY PROGRAM[a] AS RATED BY 22 STUDENTS

Technical Abilities	Mean Rating
-Identify hardwoods by leaf characteristics	7.4
-Use a trailer tape	7.3
-Cruise timber using 1/5 acre plot	7.2
-Use a staff compass and line staves	7.1
-Cruise timber using a BA point sample	7.0
-Use an Abney level	7.0
-Witness a point	7.0
-Break a chain	6.8
-Determine standing tree volumes and form classes	6.8
-Prolong a straight line	6.8
-Find your way around on a tract with nothing but a compass and a photo of the area	6.7
-Identify hardwoods by bark, twig and bud characteristics	6.7
-Keep and record field notes	6.7
-Determine tree and stand increment	6.6
-Allocate cruise plots according to a specific design	6.6
-Apply defect rules in FAS lumber	6.6
-Scale logs	6.5
-Design a systematic cruise	6.5
-Design a random sample cruise	6.5
-Locate boundaries and inventory a stand of timber or pulpwood	6.5
-Use fruit keys in identification	6.4
-Design a planting plan for any area of land	6.4
-Make a forest management plan	6.4
-Make an intermediate thinning in a stand of young timber	6.4
-Prepare a workable map for forest management purposes	6.4
-Determine the proper species to plant on a variety of sites and ownerships	6.4
-Lay out a system of logging roads and landings for a timber sale	6.4
-Determine elevation differences	6.4
-Tally stack lumber	6.3
-Use a twig key	6.3
-Use Philadelphia rods in elevation readings	6.3
-Organize and direct the activities of a fire fighting crew	6.3
-Use three and four screw transits	6.2
-Give a talk to a group of laymen in which you explain a specific forestry program such as fire protection or harvesting timber by clear-cutting	6.2
-Establish a CFI system	6.1
-Use three and four screw levels	6.1
-Lay out a curve	6.0
-Use differential leveling	6.0

TABLE 58--Continued

Technical Abilities	Mean Rating
-Determine the proper cutting (silvicultural) system to obtain the greatest return from land in the shortest possible time	6.0
-Suggest various uses for wood pulp	5.9
-Advise a manufacturer on best wood utilization	5.9
-Set up and carry out a controlled burn to improve seeded conditions in a stand of pine	5.9
-Construct an accurate map from an aerial photo if a scale is different from that of the photo	5.8
-Grade hardwood logs according to standard USFS hardwood log grades	5.8
-Make a suitable timber contract between buyer and seller that would be fair and adequately protect both parties	5.8
-Make a working plan of needed men and proper equipment to harvest a stand to timber	5.8
-Identify cover types on an aerial photo of an area with which you are familiar	5.7
-Use an aerial photo to determine timber types, size classes, tract boundaries, planting sites	5.7
-Lay out a daily work plan for a group of forest employees on a state forest or nursery	5.7
-Determine labor needs and costs for specific jobs	5.5
-Set up a complete fire plan for a group of counties	5.5
-Keep a good set of records for all forest work operations to determine their costs and feasibility	5.5
-Analyze various cost factors in log or lumber production or manufacture	5.4
-Identify wood by grain and cellular arrangement	5.3
-Locate and lay out a forest road with a maximum 6 percent grade through an inaccessable (roadless) area	5.2
-Lay out specifications for an aerial photo survey	5.1
-Measure heights, areas, and densitites on aerial photos	5.0
-Identify an outbreak of disease or insect attacks and recommend a treatment that will bring it under control	4.9
-Develop a soil map for reforestation purposes	4.9

[a]Values are means from a nine-point scale, nine indicating highest value.

TABLE 59

PREPARATION OF STUDENTS IN TECHNICAL ABILITIES--HORTICULTURE PROGRAM[a] AS RATED BY 6 STUDENTS

Technical Abilities	Mean Rating
-Develop and prepare soil mixtures	6.8
-Safely use recommended pesticides	6.8
-Determine types of fertilizer to use in various situations	6.8
-Plan work schedules	6.7
-Identify common horticultural plant materials	6.7
-Apply lime and fertilizer to properly correct soil deficiencies.	6.3
-Teach a work crew new methods	6.3
-Operate common horticultural equipment, sprayers, movers, etc.	6.3
-Use inorganic and organic fertilizers	6.3
-Keep weather records	6.3
-Test soil for nutrient deficiencies	6.2
-Read and interpret landscape drawings	6.2
-Keep growth records	6.2
-Sharpen and adjust a reel mower	6.0
-Select and use plant materials in landscaping	6.0
-Draw landscape plans	6.0
-Control factors affecting basic plant processes	5.8
-Develop a plan of soil management for greenhouse crops	5.8
-Determine labor needs and costs for specific jobs	5.7
-Recognize plant nutrient deficiencies	5.5
-Conserve soil moisture	5.5
-Calibrate sprayers for correct rate of application	5.5
-Maintain and adjust common horticultural equipment	5.3
-Tune-up small gasoline engines	5.3
-Identify insect damage	5.3
-Plan a spraying program	5.3
-Conduct a training program for maintenance personnel	5.3
-Establish a maintenance and cost-accounting system for equipment	5.2
-Identify mechanical damage	5.2
-Analyze plant processes under controlled conditions	5.0
-Recognize common engine failures	5.0
-Identify plant diseases	5.0
-Remove surplus water	4.8
-Manage turf crops	4.7
-Plan a drainage system	4.3
-Plan an irrigation system	4.3

[a]Values are means from a nine-point scale, nine indicating highest value.

TABLE 60

PREPARATION OF STUDENTS IN TECHNICAL ABILITIES--NATURAL RESOURCES CONSERVATION PROGRAM[a] AS RATED BY 15 STUDENTS

Technical Abilities	Mean Rating
-Operate equipment used in the industry	6.1
-Take part in job interviews	5.9
-Properly use drafting tools and techniques	5.8
-Prepare job application forms	5.7
-Use a forester's compass and forestry tools	5.6
-Stock, propagate and mark game	5.5
-Identify different species of fish	5.5
-Prepare working drawings	5.5
-Propagate and stock fish	5.3
-Recommend pollution control and abatement practices	5.1
-Cruise and mark timber	5.1
-Develop a lime and fertilizer program using soil test results	5.0
-Conduct water purification processes	4.9
-Test water chemically	4.9
-Calculate cost of development of recreational areas	4.7
-Select plants according to soil types	4.7
-Read data processing output	4.6
-Treat pollutants	4.3
-Prepare materials for data processing	4.3
-Prepare a budget for a game refuge	4.1

[a]Values are means from a nine-point scale, nine indicating highest value.

TABLE 61

PREPARATION OF STUDENTS IN TECHNICAL ABILITIES--RECREATION AND WILDLIFE PROGRAM[a] AS RATED BY 27 STUDENTS

Technical Abilities	Mean Rating
-Work with common hand tools	7.5
-Identify animals by sight, tracks	7.1
-Do general maintenance work	7.0
-Maintain trails and camps	7.0
-Identify shrubs and trees in the fields	6.9
-Operate equipment	6.7
-Lay out trails and camping areas	6.6
-Find your way around on a tract with nothing but a compass and a photo of the area	6.6

TABLE 61--Continued

Technical Abilities	Mean Rating
-Identify hardwoods by bark, twig, leaf and bud characteristics .	6.4
-Use of Philadelphia rods in elevation readings	6.4
-Keep and record field notes	6.3
-Plan work schedules	6.2
-Use an Abney level	6.1
-Interpret nature to the public through speaking, writing, exhibits and tours	6.0
-Use three and four screw levels and transits	6.0
-Determine elevation differences	6.0
-Do office work required of recreation managers	6.0
-Use a twig key	6.0
-Use fruit keys	5.9
-Prolong a straight line	5.9
-Organize and direct the activities of a fire fighting crew	5.9
-Use an aerial photo to determine boundaries, land use, etc.	5.9
-Construct an accurate map from an aerial photo	5.9
-Identify cover types on an aerial photo	5.9
-Identify wild flowers	5.8
-Witness a point	5.8
-Identify Ohio reptiles and amphibians	5.7
-Use a trailer tape	5.7
-Do differential leveling	5.6
-Use a breaking chain	5.6
-Make study skins	5.5
-Identify herbs	5.5
-Lay out specifications for an aerial photo survey	5.4
-Measure heights, areas and densities on aerial photos	5.4
-Associate artifacts with specific cultures	5.3
-Associate specific plants and animals with soils and regions of Ohio	5.3
-Lay out a curve	5.2
-Set up a complete fire plan for a group of counties	5.0
-Develop a soil map for replanting purposes	5.0
-Locate and lay out a road with a maximum six percent grade through an inaccessable area	4.7

[a]Values are means from a nine-point scale, nine indicating highest value.

TABLE 62

PREPARATION OF STUDENTS IN TECHNICAL ABILITIES--WATER POLLUTION CONTROL PROGRAM[a] AS RATED BY 11 STUDENTS

Technical Abilities	Mean Rating
-Secure representative water samples	7.9
-Perform tests used in water quality evaluation	7.5
-Analyze findings of water quality tests	7.3
-Prepare job application forms	7.0
-Conduct water purification processes	7.0
-Use the compass, abney level and tapes	6.9
-Recognize pollution damage to wildlife	6.9
-Prescribe and implement pollution control measures	6.9
-Use new methods and techniques in sampling	6.6
-Identify pollutants in surface and ground water	6.4
-Recognize aquatic plants and animals	6.2
-Take part in job interviews	5.9
-Calculate costs of quality water	5.3
-Interpret aerial photographs	5.2
-Survey land and water areas	5.2
-Identify and classify common aquatic life	5.0
-Develop maps	4.8

[a]Values are means from a nine-point scale, nine indicating highest value.

TABLE 63

PREPARATION OF STUDENTS IN TECHNICAL UNDERSTANDINGS--AGRI-BUSINESS (CLARK) PROGRAM[a] AS RATED BY 16 STUDENTS

Technical Abilities	Mean Rating
-Grain marketing	6.5
-Fertilizer uses, manufacture, and formulation	6.4
-Use of feed additives	6.4
-Marketing functions and procedures	6.4
-Handling, treating, and conditioning grain for storage	6.3
-Working relations between labor and management	6.3
-Feed nutrients and livestock nutrient requirements	6.2
-Purposes of common bacterins, vaccines, medications, etc.	6.0
-Plant growth and development	5.9
-Common livestock diseases and treatment	5.9
-Feed laws and law regulating feed sales	5.9

TABLE 63--Continued

Technical Abilities	Mean Rating
-Warehousing laws	5.9
-Soil origin, composition and characteristics	5.8
-Principles of price forecasting	5.8
-Labor laws and regulations	5.6
-Soil insects and soil micro-organisms	5.5
-Workable wage structures	5.4
-Fringe benefits and retirement procedures	5.2

[a]Values are means from a nine-point scale, nine indicating highest value.

TABLE 64

PREPARATION OF STUDENTS IN TECHNICAL UNDERSTANDINGS--AGRI-BUSINESS (PENTA) PROGRAM[a] AS RATED BY 18 STUDENTS

Technical Understandings	Mean Rating
-Handling, treating, and conditioning grain for storage	6.3
-Grain marketing	6.2
-Plant growth and development	6.2
-Soil origin, composition and characteristics	6.0
-Fertilizer uses, manufacture, and formulation	5.9
-Use of feed additives	5.9
-Feed nutrients and livestock nutrient requirements	5.8
-Working relations between labor and management	5.6
-Fringe benefits and retirement procedures	5.6
-Marketing functions and procedures	5.6
-Labor laws and regulations	5.4
-Common livestock diseases and treatment	5.4
-Principles of price forecasting	5.3
-Soil insects and soil micro-organisms	5.2
-Workable wage structures	5.2
-Purposes of common bacterins, vaccines, medications, etc.	5.1
-Feed laws and law regulating feed sales	5.0
-Warehousing laws	4.6

[a]Values are means from a nine-point scale, nine indicating highest value.

TABLE 65

PREPARATION OF STUDENTS IN TECHNICAL UNDERSTANDINGS--AGRI-EQUIPMENT PROGRAM[a] AS RATED BY 16 STUDENTS

Technical Understandings	Mean Rating
-Principles of operation of the internal combustion engines	7.4
-Nomenclature of internal combusion engines	7.2
-Problems in crop harvesting	7.0
-Basic electrical principles	6.9
-Nomenclature of a tractor's power train	6.9
-Traction principles and problems	6.9
-Proper hitching	6.9
-Principles of operation of a tractor's power train	6.8
-Principles of crop harvesting	6.8
-Types and kinds of farm machinery available	6.8
-Rates of seeding and seeding depth	6.6
-Basic farm crop habits that affect farm machinery use and operation	6.4
-Job opportunities that exist in the equipment industry	6.3
-Mathematical principles as they apply to mechanics	6.3
-Principles of fertilizer placement	6.2
-Hydraulic operations	6.1
-Soil origin, composition, and characteristics	6.0
-Principles of herbicide application	6.0
-Principles of insecticide application	5.9
-Working relations between labor and management	5.9
-Plant growth and reproduction	5.8
-Properties of building materials	5.6
-Workable wage structures	5.4
-Fringe benefits and retirement procedures	5.4
-Conventional building practices	5.3
-Basic views and conventions used in drafting	5.2
-Environmental control for animals	5.0
-Environmental control for grain storage and other commodities ..	5.0

[a]Values are means from a nine-point scale, nine indicating highest value.

TABLE 66

PREPARATION OF STUDENTS IN TECHNICAL UNDERSTANDINGS--AGRICULTURAL MANAGEMENT AND ACCOUNTING PROGRAM[a] AS RATED BY 18 STUDENTS

Technical Understandings	Mean Rating
-Common livestock diseases and treatment	6.6
-Use of feed additives	6.4
-Feed nutrients and livestock nutrient requirements	6.4
-Grain marketing	6.3
-Handling, treating, and conditioning grain for storage	6.3
-Plant growth and development	6.2
-Soil origin, composition and characteristics	6.0
-Fertilizer uses, manufacture, and formulation	6.0
-Marketing functions and procedures	5.4
-Working relations between labor and management	5.4
-Purposes of common bacterins, vaccines, medications, etc.	5.3
-Principles of price forecasting	5.3
-Feed laws and law regulating feed sales	4.7
-Fringe benefits and retirement procedures	4.2
-Warehousing laws	4.1

[a]Values are means from a nine-point scale, nine indicating highest value.

TABLE 67

PREPARATION OF STUDENTS IN TECHNICAL UNDERSTANDINGS--FORESTRY PROGRAM[a] AS RATED BY 22 STUDENTS

Technical Understandings	Mean Rating
-Reforestation methods	7.0
-Silvicultural systems	6.9
-Principles of forest management	6.9
-Varied uses of the forest	6.8
-Fire prevention and control strategies	6.8
-Defect rules in FAS lumber	6.7
-Wildlife management principles	6.7
-Principles of growth regulation through thinning and pruning	6.7
-Map symbols	6.6
-The basic requirements of the hardwood lumber grades	6.5
-Standards of select lumber	6.5
-Geographical effects on forest growth	6.5
-Surveying principles	6.3

TABLE 67--Continued

Technical Understandings	Mean Rating
-Silvicultural characteristics of the local conifers and hardwoods	6.2
-Vernier readings on Philadelphia rods	6.0
-Place of the forestry technician	5.9
-Basic botany	5.9
-Three and four-screw levels and transits	5.8
-Requirements of sound wormy grade	5.5
-Structure of state and federal forestry agencies	5.4
-Forestry laws	5.4
-Principles of technical drawing	5.4
-Commercially important trees of the U.S. and Canada, their ranges, by-products and growth characteristics	5.3
-Present forestry resource status	5.1
-Ecological system and their interdependence	5.0
-Basic soil types	5.0
-Species tolerance rating	5.0
-History of Forestry	4.5
-Principles and functions of the theodite	3.3
-Basic grades of fir, hemlock, southern yellow pines and other pines	3.1

[a]Values are means from a nine-point scale, nine indicating highest value.

TABLE 68

PREPARATION OF STUDENTS IN TECHNICAL UNDERSTANDINGS--HORTICULTURE PROGRAM[a] AS RATED BY 6 STUDENTS

Technical Understandings	Mean Rating
-Fertilizers and soil fertility	7.0
-Principles and procedures of plant propagation	6.5
-Physical properties of soil	6.5
-Importance of organic matter in the soils	6.2
-Methods of job and employee evaluation	6.2
-Forms of plant life	6.2
-Landscape design principles	6.2
-Soil reactions	6.0
-Maintenance and tune-up of engines and equipment	6.0
-Technician's role in the horticultural industry	6.0
-Technician's qualifications in the horticultural industry	6.0
-Basic processes of plant growth	5.8
-Soil improvement material	5.8

TABLE 68--Continued

Technical Understandings	Mean Rating
-Elements needed by plants and their common sources	5.8
-Pesticides, their safe use and compatibilities	5.8
-Soil-water-plant relationships	5.7
-Nitrogen cycle	5.7
-Principles of engine operation	5.7
-Understanding of photosynthesis and respiration	5.7
-Landscape architecture	5.7
-Relationship between cultural practices, environmental conditions and insect and disease problems	5.7
-Job opportunities as a horticultural technician	5.7
-Relationship of organic and inorganic chemistry to horticulture	5.3
-Soil microorganism	4.8
-Structure and activity of atoms	3.5

[a]Values are means from a nine-point scale, nine indicating highest value.

TABLE 69

PREPARATION OF STUDENTS IN TECHNICAL UNDERSTANDINGS--NATURAL RESOURCES CONSERVATION PROGRAM[a] AS RATED BY 14 STUDENTS

Technical Understandings	Mean Rating
-Developing areas for recreation	6.4
-Relationship of fertilization to plant growth and development	6.1
-General concepts of natural resources conservation	6.1
-Operation, repair and maintenance of equipment	6.1
-Water quality and erosion control in forest management	6.1
-Interpreting aerial photographs	5.8
-Game management techniques	5.7
-Principles involved in wildlife management	5.7
-Procedures in securing employment	5.6
-Principles involved in fish management	5.3
-Topographic and freehand drawing	5.2
-Methods of water purification	5.1
-Techniques in testing water	5.1
-Laws pertaining to game refuges	4.8
-Pollution laws, control and abatement	4.8
-Budget components	4.6
-Data processing procedures	4.3
-Data processing terms	4.2
-Orthographic projection	4.2

[a]Values are means from a nine-point scale, nine indicating highest value.

TABLE 70

PREPARATION OF STUDENTS IN TECHNICAL UNDERSTANDINGS--RECREATION AND WILDLIFE PROGRAM[a] AS RATED BY 27 STUDENTS

Technical Understandings	Mean Rating
-Plant succession in varying ecological situations	7.1
-Wildlife value of trees and shrubs	7.1
-Classification of animals	7.0
-Habitat, food and life history of Ohio game birds and animals	7.0
-General ecology of South Eastern Ohio	6.9
-Values and limitations of plantings, predator control, vegetation control and stocking in wildlife management	6.8
-Varied uses of forests	6.4
-Fire prevention and control strategies	6.4
-Problems of maintenance	6.4
-Ohio before settlement: landscape, animals, Indians	6.4
-Classification of plants	6.4
-Aquatic environments and plants and animals therein	6.3
-Map symbols	6.2
-Basic botany	6.1
-Settlement problems including dealing with the Indians	6.0
-Early exploration of Ohio	6.0
-Prehistoric cultures in Ohio	6.0
-Job opportunities and required skills of employees in recreation	6.0
-Vernier readings on Philadelphia rods	6.0
-Problems of managers of recreational areas	5.9
-Recreational agencies in Ohio	5.8
-History of wildlife management	5.7
-Principles of surveying	5.7
-National agencies dealing with conservation	5.6
-Principles of technical drawing	5.6
-Evolutionary development of man	5.5
-Functions of the various agencies	5.3
-Man's migration to the various continents	5.3
-Commercially important trees of the U.S. and Canada	5.3
-Tolerance and tolerance rating	5.2
-Characteristics, distribution and life history of Ohio reptiles and amphibians	5.2
-Aquatic and microscopic life	5.0
-Silvicultural characteristics of local conifers and hardwoods	4.3
-Basic principles and functions of the theodite	4.1

[a]Values are means from a nine-point scale, nine indicating highest value.

TABLE 71

PREPARATION OF STUDENTS IN TECHNICAL UNDERSTANDINGS--WATER POLLUTION CONTROL PROGRAM[a] AS RATED BY 11 STUDENTS

Technical Understandings	Mean Rating
-Problems caused by strip mining in SE Ohio	7.9
-Steps in control of water pollution	7.4
-Procedures for sampling, identifying and enumerating pollutants	7.2
-Relationship of air and water pollution	7.2
-Methods of water purification	7.1
-Effects of wastes in surface and ground water	6.9
-The effect of forests on water quality	6.8
-Factors affecting man in different environments	6.7
-Need for quality standards in water management	6.6
-Procedures in securing employment	6.6
-Basic soil and water relationships	6.5
-Effects of water pollution on wildlife	6.5
-Principles of Surveying	6.4
-Cost factors of water improvement	6.3
-Fundamentals of aquatic biology	6.1
-Relationship of recreation and water pollution	6.1
-Interrelationship of wildlife and water pollution	5.9
-Basic human behavior	5.8
-Structure and life processes of seed plants	5.0
-Laws dealing with water pollution	4.8
-Uses of aerial photography in Water Management	4.5
-Theories of chemistry	4.5

[a]Values are means from a nine-point scale, nine indicating highest value.

SUMMARY OF FINDINGS

During the 1970-71 school year, 515 students were enrolled in twelve agricultural technologies and 147 graduated from Ohio technician education programs in agriculture. Two new programs and a 11 per cent increase in initial enrollment were recorded over the 1969-70 term. The dropout rate was nearly 20 per cent.

The typical first year enrollee was 19.1 years of age, a high school graduate with a 104.4 intelligence quotient, who had achieved a 2.24 grade point average and ranked at the 46th percentile in his high school class. Over 40 per cent of the enrollees were from farm homes, and approximately the same per cent listed urban residences; over one-half of the fathers of enrollees were employed in non-agricultural business while most of the remainder were engaged in farming. Approximately 63 per cent of first-year students lived within fifty miles of their institution and only 8 per cent lived beyond 200 miles. Only Forestry and Recreation and Wildlife attracted a large majority of their students from beyond 50 miles. Forty-eight per cent of all enrollees commuted daily. Nearly all enrollees worked during high school and the summer before entering technical school. Increased earning ability was given the highest rating by enrollees when asked why they continued their education beyond high school. Outdoor, manipulative and managerial positions were favored while office and sales work rated lower among enrollees considering future work conditions.

Students graduating in 1971 accumulated a 2.76 grade point average. Over 60 per cent of the students worked during technical school--an average of 26 hours per week and 29 weeks per year. The majority were employed in agricultural jobs. Advancement, desirable employment and training

opportunities were rated highest as reasons for completing technical school. Advancement, working conditions and employer were most highly rated influences in selection of a position. Vocational agriculture was rated highest in value among all high school courses both in technical school classes and on-the-job. Likewise, being an FFA officer or member was rated as the most valuable high school activity in both categories. Among six general aspects of technical school, on-the-job training, classwork in agriculture, and student contacts were rated as most useful to future jobs. Most courses in the various programs were rated of average or higher value to future work.

After one year 20 per cent of those completing the programs had seen military service. Sixty-two per cent of the remainder were employed as agricultural technicians. Starting monthly salaries averaged $487; one year later, monthly salaries averaged $550 with employers reporting the higher figures. Agri-Business and Agriculture Equipment graduates received higher wages than graduates from other technologies. Over 70 per cent of the graduates reported satisfaction with their jobs. Among previous experience, other employment and youth leadership activities were rated of highest value to the job. Seventy-six per cent indicated they would again enroll. A nearly proportional number rated themselves above average as beginning technicians; employers generally agreed. All employers indicated they would hire other graduates but 22 per cent expressed some reservations. Seven out of ten graduates would be earning $7,000 to $11,000 per year after five years on the job, according to employers. Almost twice as many employers furnished on-the-job instruction than provided formal job preparation.

Of the 26 dropouts who responded, eight said technical school was helpful to them. A variety of reasons were given for discontinuing the programs but the major causes were dissatisfaction with the program, lack of money, low grades and military service.

Employers agreed with students and graduates in their high rating of integrity, dependability, courtesy and friendliness, and responsibility and lower competencies in leadership, initiative and judgment. Less agreement was seen in ratings of general abilities and understandings with students and graduates giving themselves higher scores. They were, however, considered to be "average" in most areas. Student self-evaluation in specific technical abilities and understandings within the various programs indicate average or above average development in all but a few items--thus indicating that generally adequate preparation has been given.

CONCLUSIONS

1. Continued, substantial growth in numbers of students, graduates and programs are indicated for the foreseeable future. Increases in numbers of institutions offering technical agriculture will probably take place at a slower rate.

2. Characteristics of students are changing. Most future enrollees will be in their late teens or early twenties--either right out of high school or after two or three years in the armed forces. Agricultural technology programs--especially those not directly related to farming--are appealing to an increasing number of students from urban and rural, non-farm homes.

3. More program offerings in strategically placed institutions have reduced distance enrollees must travel to secure agricultural technology education. Only highly specialized programs such as Forestry and Recreation and Wildlife can expect to attract high numbers of students from distant areas of the state. Numbers of commuting students will roughly approximate the number living within 50 miles of the institutions. High school graduates with average scholastic ability enroll in technical agriculture programs.

4. Nearly all enrollees have worked during high school--mostly on farms; this pattern changes in the period after high school but prior to technical school. During the interim, prospective enrollees seek employment in agriculture or non-agriculture business, probably due to a desire to earn more money to meet impending college costs.

5. The major reason technical agriculture students continue education beyond high school is to earn more. No one group or person is of major influence in causing students to select a specific technical program. Parents and friends influence students to continue their education. Location, ability to work and tuition costs are factors in selection of programs and institutions.

6. Enrollees do not have a good concept of what their particular work conditions will be after graduation. Better career counseling appears necessary in the recruitment stage and during the program.

7. Technical agriculture students generally do C+ to B- work in technical school.

8. Two out of three students want to (or have to) work at least part-time while attending technical school. Most work during the summer between their first and second year, on a full-time basis and in an agricultural business. Students prefer jobs in their training area or other agricultural business to farm work or non-agricultural jobs.

9. Students enroll in and complete technical agriculture programs primarily because they believe doing so improves their earning power and job opportunities. Students are similarly dogmatic in selection of the first position after graduation.

10. High school course work is generally considered by students to be of greater value on-the-job while extra-curricular activities are more important in technical school. Vocational agriculture and FFA experience are most highly valued aspects of high school both in technical school and on-the-job, according to students.

11. Students thought most courses offered in the various technologies were average or above in value to future employment.

12. Students want programs to be open to those wishing to attend; past records or recommendations should not be given major consideration in admissions.

13. Of all graduates from technician education programs in agriculture nearly one-fifth enter the military the first year and six out of ten remaining take training-related jobs and stick to them. Few seek additional education or become unemployed.

14. There is a trend for increased potential income with each graduating class. The institutions appear to be effective in improving the income level of individuals who enroll in and complete technical agriculture programs.

15. Graduates value their technical school education, as well as farm and other employment as the best preparation for jobs. Within their technical school education graduates feel on-job training, student contacts and technical classes are most valuable. Most graduates are satisfied with their training and would re-enroll.

16. Employers generally rate graduates somewhat lower, compared to other new employees, than graduates rate themselves. Yet most employers are satisfied with the technical agriculture training received and would hire additional graduates. Training provided newly-hired graduates by employing firms is widely varied and often of limited scope.

17. Most students who drop out do so during the first year in technical school. Technical agriculture dropouts earn considerably less and hold more jobs for shorter periods than do graduates. Ohio technical agriculture program dropouts are crying out for individualized teaching, improved relevence in courses, easing the cost of education and more recognition of their training by employers.

18. Most students and graduates have a good self-concept of their abilities and weaknesses, but they need help in improving certain aspects which employers expect.

19. Technician education programs in agriculture generally provide adequate skill development and levels of important understandings. However, several abilities and understandings in each technology are not being adequately developed in students.

APPENDIX

I.D. Code

1 2 3 4 5 6 7 8 9 10

Do Not Write in This Space

Today's Date _____
Day Month Year

ENROLLEE SURVEY

FOR

TECHNICAL EDUCATION IN AGRICULTURE

NAME _____
last first middle initial

Home Address _____
street city state zip code

Technical Program _____

11 12 Your Age in Years _____

13 Indicate father's (or guardian's) occupation by checking below:

___ Farming ___ Off-Farm Agri-Business
___ Non-Agri-Business ___ Retired

How many miles is your home from this school?

_____ 0-25 miles _____ 76-100 miles
_____ 26-50 miles _____ 101-200 miles
_____ 51-75 miles _____ Over 200 miles

Do you commute daily between home and school? Yes ___ No ___

During your high school years, where did you live?

_____ On a farm
_____ In a rural non-farm home
_____ In an urban home, village, or city

During your high school years, what type of part-time employment did you have?

_____ None
_____ Worked on home farm
_____ Worked on a different farm
_____ Worked in an off-farm agricultural business
_____ Worked in a non-agricultural business

Between high school graduation and the time you entered your technician training program, were you employed?

_____ No
_____ Yes, part time
_____ Yes, full time

If yes, check below the type employment you had.

_____ Worked on home farm
_____ Worked on a different farm
_____ Worked in an off-farm agricultural business
_____ Worked in a non-agricultural business

DIRECTIONS: Circle a number for each item.

	None to Little Influence			Average Influence			Major Influence		
	1	2	3	4	5	6	7	8	9
How much influence did the following factors have on your decision to continue your education beyond high school?									
Friends continuing in school	1	2	3	4	5	6	7	8	9
Lack of employment opportunities	1	2	3	4	5	6	7	8	9
Military deferment	1	2	3	4	5	6	7	8	9
Increased earning ability	1	2	3	4	5	6	7	8	9
Social prestige	1	2	3	4	5	6	7	8	9
Enjoy school work	1	2	3	4	5	6	7	8	9
Desire of parents, relatives, friends	1	2	3	4	5	6	7	8	9
Desire of employer	1	2	3	4	5	6	7	8	9

	None to Little Influence 1 2 3	Average Influence 4 5 6	Major Influence 7 8 9
To what extent did the following persons influence you to enroll in this technical program?			
Parents	1 2 3	4 5 6	7 8 9
Wife	1 2 3	4 5 6	7 8 9
Other relatives	1 2 3	4 5 6	7 8 9
Friends	1 2 3	4 5 6	7 8 9
Vocational agriculture teacher	1 2 3	4 5 6	7 8 9
Other high school teachers	1 2 3	4 5 6	7 8 9
Guidance counselor, high school	1 2 3	4 5 6	7 8 9
High school administrator	1 2 3	4 5 6	7 8 9
Technical School representative	1 2 3	4 5 6	7 8 9
Employer	1 2 3	4 5 6	7 8 9
Other, specify_____	1 2 3	4 5 6	7 8 9
To what extent did the following factors influence you to enroll in this technical program?			
Low school tuition	1 2 3	4 5 6	7 8 9
Location of school	1 2 3	4 5 6	7 8 9
Ability to work while attending school	1 2 3	4 5 6	7 8 9
Visit with representative from the technical school	1 2 3	4 5 6	7 8 9
Open house at technical school	1 2 3	4 5 6	7 8 9
Newspaper article or other type of publication describing the program	1 2 3	4 5 6	7 8 9

	Little Desire			Average Desire			Major Desire		
	1	2	3	4	5	6	7	8	9
How would you rate the desirability of the following types of work situations for yourself?									
Working out of doors	1	2	3	4	5	6	7	8	9
Working with your hands	1	2	3	4	5	6	7	8	9
Working with machinery	1	2	3	4	5	6	7	8	9
Working with plants and animals	1	2	3	4	5	6	7	8	9
Working foreman	1	2	3	4	5	6	7	8	9
Office work	1	2	3	4	5	6	7	8	9
Sales work, in a business	1	2	3	4	5	6	7	8	9
Sales work, on the road	1	2	3	4	5	6	7	8	9
Educational or promotional work	1	2	3	4	5	6	7	8	9
Supervision of others	1	2	3	4	5	6	7	8	9
Working for an hourly wage	1	2	3	4	5	6	7	8	9
Working for a weekly, monthly salary	1	2	3	4	5	6	7	8	9
40-hour work week or less	1	2	3	4	5	6	7	8	9
Manager, assistant	1	2	3	4	5	6	7	8	9
Owner	1	2	3	4	5	6	7	8	9

Today's Date _____
Day Month Year

1 2 3 4 5 6 7 8 9 10

DO NOT WRITE IN THIS SPACE

STUDENT SURVEY
FOR
TECHNICAL EDUCATION IN AGRICULTURE

NAME _____
(Last) (First) (Middle Initial)

HOME ADDRESS _____
(Street) (City) (State) (Zip Code)

TECHNICAL PROGRAM _____

1. Have you accepted full-time employment upon graduation in June? Yes__ No__

If yes, give a brief description of the position _____

_____

Starting salary $_____ per month

Name of Employer _____

Address of Employer _____

2. Were you employed while attending technical school? (Check one on each line)

First Year: No____ Yes, Part-time____ Yes, Full-time____

Intervening Summer: No____ Yes, Part-time____ Yes, Full-time____

Second Year: No____ Yes, Part-time____ Yes, Full-time____

If you answered yes to any of the above, briefly explain the type and amount of employment you had.

	Hours Per Week	Number of Weeks	Job Description
First Year			
During Summer			
Second Year			

	None to Little Influence			Average Influence			Major Influence		
	1	2	3	4	5	6	7	8	9
Now that you have about completed this training, what influence did the following factors have in causing you to complete the program?									
Believe it will help in obtaining more desirable employment	1	2	3	4	5	6	7	8	9
Believe it will help in advancing in an occupation	1	2	3	4	5	6	7	8	9
Believe the training will help to begin at a higher wage	1	2	3	4	5	6	7	8	9
Believe it provides a foundation for additional training and education	1	2	3	4	5	6	7	8	9
Desire to stay in school with your friends	1	2	3	4	5	6	7	8	9
Desire to stay out of military service	1	2	3	4	5	6	7	8	9
Inability to obtain a desirable job	1	2	3	4	5	6	7	8	9
Desire of parents, wife, friends, teachers, or others to complete the program	1	2	3	4	5	6	7	8	9
Enjoyed the educational experience	1	2	3	4	5	6	7	8	9
Too much pride to quit	1	2	3	4	5	6	7	8	9

	None to Little Influence			Average Influence			Major Influence		
	1	2	3	4	5	6	7	8	9
What influence will the following factors or persons have in your selection of a position upon completion of this training program?									
Rate of pay	1	2	3	4	5	6	7	8	9
Opportunity for advancement	1	2	3	4	5	6	7	8	9
Opportunity to live at home or near home	1	2	3	4	5	6	7	8	9
Desirable working conditions	1	2	3	4	5	6	7	8	9
Personality and attitude of person doing the hiring	1	2	3	4	5	6	7	8	9
Desire for further education	1	2	3	4	5	6	7	8	9
Opportunity for additional training with employing company	1	2	3	4	5	6	7	8	9
Influence of parents, wife, relatives, or friends	1	2	3	4	5	6	7	8	9
Present employer	1	2	3	4	5	6	7	8	9
Present technical school teachers	1	2	3	4	5	6	7	8	9

	Not Applicable	Little Value			Average Value			Major Value		
	NA	1	2	3	4	5	6	7	8	9
To what extent did the course you completed in high school help you in your classwork in technical school?										
English	NA	1	2	3	4	5	6	7	8	9
Foreign Language	NA	1	2	3	4	5	6	7	8	9
Mathematics	NA	1	2	3	4	5	6	7	8	9
Science	NA	1	2	3	4	5	6	7	8	9
Social Studies	NA	1	2	3	4	5	6	7	8	9
Vocational Agriculture	NA	1	2	3	4	5	6	7	8	9
Other Vocational subjects	NA	1	2	3	4	5	6	7	8	9
Commercial courses: typing, bookkeeping, etc.	NA	1	2	3	4	5	6	7	8	9
Other_____		1	2	3	4	5	6	7	8	9
What do you expect will be the long-range value of your high school courses to your success and advancement in your world of work?										
English	NA	1	2	3	4	5	6	7	8	9
Foreign Language	NA	1	2	3	4	5	6	7	8	9
Mathematics	NA	1	2	3	4	5	6	7	8	9
Science	NA	1	2	3	4	5	6	7	8	9
Social Studies	NA	1	2	3	4	5	6	7	8	9
Vocational Agriculture	NA	1	2	3	4	5	6	7	8	9
Other Vocational Subjects	NA	1	2	3	4	5	6	7	8	9
Commercial courses: typing, bookkeeping, etc.	NA	1	2	3	4	5	6	7	8	9

	Not Applicable	Little Value			Average Value			Major Value		
	NA	1	2	3	4	5	6	7	8	9
What was the value of the following high school activities to your technical program achievement?										
Officer--FFA	NA	1	2	3	4	5	6	7	8	9
Member--FFA	NA	1	2	3	4	5	6	7	8	9
Student Council	NA	1	2	3	4	5	6	7	8	9
Debate, Forensics, Drama, etc.	NA	1	2	3	4	5	6	7	8	9
Music, Band, Choir, etc.	NA	1	2	3	4	5	6	7	8	9
High School Class Officer	NA	1	2	3	4	5	6	7	8	9
Athletic Team	NA	1	2	3	4	5	6	7	8	9
Other Activity Member, specify_____	NA	1	2	3	4	5	6	7	8	9
What do you expect will be the long-range value of these activities to your success and advancement in your world of work?										
Officer--FFA	NA	1	2	3	4	5	6	7	8	9
Member--FFA	NA	1	2	3	4	5	6	7	8	9
Student Council	NA	1	2	3	4	5	6	7	8	9
Debate, Forensics, Drama, etc.	NA	1	2	3	4	5	6	7	8	9
Music, Band. Choir, etc.	NA	1	2	3	4	5	6	7	8	9
High School Class Officer	NA	1	2	3	4	5	6	7	8	9
Athletic Team	NA	1	2	3	4	5	6	7	8	9
Member--Other Activity, specify_____	NA	1	2	3	4	5	6	7	8	9

	Little Value			Average Value			Major Value		
	1	2	3	4	5	6	7	8	9
Check (x) the type of work experience you have had BETWEEN the first and second year of your technical school program and indicate the expected value of these experiences in your future employment as a technician.									
____ Work on father's farm	1	2	3	4	5	6	7	8	9
____ Work on other than father's farm	1	2	3	4	5	6	7	8	9
____ Self-employed as a farmer	1	2	3	4	5	6	7	8	9
____ Work for father in an agricultural related occupation	1	2	3	4	5	6	7	8	9
____ Work for other than father in an agricultural related occupation	1	2	3	4	5	6	7	8	9
____ Self-employed in an agricultural related occupation	1	2	3	4	5	6	7	8	9
____ Work for father in a non-agricultural occupation	1	2	3	4	5	6	7	8	9
____ Work for other than father in a non-agricultural occupation	1	2	3	4	5	6	7	8	9
____ Self-employed in a non-agricultural occupation	1	2	3	4	5	6	7	8	9
What value do you expect each of the following phases of your technical training program will have on your future employment?									
Classwork in agriculture	1	2	3	4	5	6	7	8	9
On-job training	1	2	3	4	5	6	7	8	9
Classwork other than agriculture	1	2	3	4	5	6	7	8	9
Contact with other students with similar interests	1	2	3	4	5	6	7	8	9
Individual couseling by faculty	1	2	3	4	5	6	7	8	9
School clubs and social activities	1	2	3	4	5	6	7	8	9

SELF-INVENTORY EVALUATION

SECTION I, GENERAL TRAITS:

You are near the completion of your training as a technician. How would you rate yourself AS A TECHNICIAN on the following traits?

Directions: Circle the number at the right which you feel is an honest evaluation of yourself.

	Below Average			Average			Above Average		
	1	2	3	4	5	6	7	8	9
INTEGRITY: Trustworthiness, honesty, loyalty	1	2	3	4	5	6	7	8	9
DEPENDABILITY: Promptness, reliability in attendance	1	2	3	4	5	6	7	8	9
RESPONSIBILITY: Willingness with which work is accepted and performed	1	2	3	4	5	6	7	8	9
INITIATIVE: Ability to plan and direct one's own work	1	2	3	4	5	6	7	8	9
JUDGMENT: Ability to make sound, accurate decisions	1	2	3	4	5	6	7	8	9
COOPERATION: Ability to work with others	1	2	3	4	5	6	7	8	9
LEADERSHIP: Qualities of understanding people and directing work of others	1	2	3	4	5	6	7	8	9
ATTITUDES TOWARD WORK: Degree of enthusiasm with which one performs his work	1	2	3	4	5	6	7	8	9
EMOTIONAL STABILITY: Poise and self-control	1	2	3	4	5	6	7	8	9
COURTESY AND FRIENDLINESS: Consideration and kindness toward others	1	2	3	4	5	6	7	8	9
PERSONAL APPEARANCE: Neatness, cleanliness, appropriate dress and grooming	1	2	3	4	5	6	7	8	9
POTENTIALITIES: Ability to meet and to apply one's self to new situations	1	2	3	4	5	6	7	8	9

SECTION II, GENERAL UNDERSTANDING AND ABILITIES

GENERAL UNDERSTANDINGS	Below Average 1	2	3	Average 4	5	6	Above Average 7	8	9
How would you rate your understanding of:									
Supply, demand and pricing of agricultural products	1	2	3	4	5	6	7	8	9
Government's role in agriculture	1	2	3	4	5	6	7	8	9
Price cycles as they apply to agriculture	1	2	3	4	5	6	7	8	9
Types of agricultural business, independent, corporation, etc.	1	2	3	4	5	6	7	8	9
Problems common to agricultural business	1	2	3	4	5	6	7	8	9
Money management in an agricultural business	1	2	3	4	5	6	7	8	9
Money and banking and their importance in our society	1	2	3	4	5	6	7	8	9
Principles of credit	1	2	3	4	5	6	7	8	9
Types of economic systems, capitalism, socialism, etc.	1	2	3	4	5	6	7	8	9
Principles and functions of advertising	1	2	3	4	5	6	7	8	9
Principles of merchandising	1	2	3	4	5	6	7	8	9
Merchandise display	1	2	3	4	5	6	7	8	9
Economic trends which control the buying and selling of merchandise	1	2	3	4	5	6	7	8	9
Consumer demands	1	2	3	4	5	6	7	8	9
Basic accounting principles	1	2	3	4	5	6	7	8	9

GENERAL ABILITIES	Below Average			Average			Above Average		
	1	2	3	4	5	6	7	8	9
How would you rate your ability to:									
Analyze and make recommendation on supplying credit to customers	1	2	3	4	5	6	7	8	9
Do basic arithmetical problems	1	2	3	4	5	6	7	8	9
Use good human relations techniques in speaking and writing	1	2	3	4	5	6	7	8	9
Supervise employees	1	2	3	4	5	6	7	8	9
Dictate letters	1	2	3	4	5	6	7	8	9
Write reports, news releases, sales messages, etc.	1	2	3	4	5	6	7	8	9
Speak at staff meetings, sales clinics, etc.	1	2	3	4	5	6	7	8	9
Use parliamentary procedures	1	2	3	4	5	6	7	8	9
Use proper grammar	1	2	3	4	5	6	7	8	9
Spell	1	2	3	4	5	6	7	8	9
Read with understanding	1	2	3	4	5	6	7	8	9
Listen and comprehend what you hear	1	2	3	4	5	6	7	8	9
Communicate on the telephone	1	2	3	4	5	6	7	8	9
Do complete accounting	1	2	3	4	5	6	7	8	9
Prepare, interpret, and analyze financial statements	1	2	3	4	5	6	7	8	9

1 2 3 4 5 6 7 8 9 10

DO NOT WRITE IN THIS SPACE

SURVEY OF FORMER STUDENTS
OF
TECHNICAL AGRICULTURAL PROGRAMS

As a former student of technical education in Ohio, you possess valuable information; please help us to improve the program and thus help future students by completing this short survey.

Name _____

Present Address _____

Attended _____ Technical School in the _____

_____ Program for _____ months.

1. Were you employed while attending school?
   _____ No _____ Yes, Part-time _____ Yes, Full-time

2. What was your major reason for not completing the technical school program?
   _____ Lack of money
   _____ To get married
   _____ To take a job
   _____ Program did not offer what was desired
   _____ To attend another school
   _____ Grades were too low
   _____ Parents and/or wife urged discontinuance
   _____ Moved away
   _____ Other reason--Explain _____

3. Do you feel it was a wise decision to leave the technical program? _____

4. Why do you say this? _____

_____

5. Do you feel that the course work you had in the technical program has been helpful to you?
   _____ Very Helpful _____ Helpful _____ Little Help _____ No Help

6. What can be done to reduce the number of students who leave Ohio technician education programs prior to graduation?

(PLEASE COMPLETE THOSE PARTS THAT APPLY ON THE REVERSE SIDE)

What was your starting salary/month on your first job?

Since June, 1970, how many months have you worked at all jobs?

What is your present salary/month?

What job titles have you held?

Since leaving technical school, how many different employers have you worked for?

If you left any job, what were the major reasons for leaving?

Are you satisfied with your present job?

Very Satisfied_____
Satisfied_____
Dissatisfied_____
Very Dissatisfied_____

Are you now employed in an occupation related to your training program of your technical institute?

Yes_____
No_____

1 2 3 4 5 6 7 8 9 10

DO NOT WRITE IN THIS SPACE

EMPLOYER'S REPORT OF GRADUATES
OF
OHIO TECHNICAL AGRICULTURE PROGRAMS

Graduate: _____

Technical Education Program: _____

Your Name _____ Position _____

Name of Business _____

Business Address _____

NOTE: If this technician is no longer with your business, please complete this section and any of the numbered questions in the remainder of the form which you can answer.

Reason technician left your firm _____

_____

How long was the individual employed at your firm? _____ months.

If known, please indicate the following:

Individual's Address:	His present employer & address:
_____	_____
_____	_____
_____	_____

1. List the positions (job titles) this employee has held since joining your business.
   First position _____
   Second position _____
   Third position _____

(PLEASE TURN THIS PAGE OVER FOR MORE)

2. If your business needed similar employees, would you recommend employing other graduates from this technician training program?
_____Yes _____Yes, with reservations _____No

3. What was the beginning salary of this employee with your business?
$_____per month

4. What is this employee's present salary?
$_____per month

5. What do you anticipate the annual income of this employee will be after five years on the job?

____Under $5,999	____$10,000-$10,999
____$6,000-$6,999	____$11,000-$11,999
____$7,000-$7,999	____$12,000-$12,999
____$8,000-$8,999	____$13,000-$13,999
____$9,000-$9,999	____Over $14,000

6. Please rate the employee on each of the skills listed below which apply to his work. Circle one number for each skill that applies.

Job Skills	Below Average			Average			Above Average		
Mathematical ability	1	2	3	4	5	6	7	8	9
Use of English	1	2	3	4	5	6	7	8	9
Speech, ability to convey ideas	1	2	3	4	5	6	7	8	9
Written communications	1	2	3	4	5	6	7	8	9
Knowledge of merchandise	1	2	3	4	5	6	7	8	9
Salesmanship	1	2	3	4	5	6	7	8	9
Mechanical aptitude	1	2	3	4	5	6	7	8	9
Orderliness	1	2	3	4	5	6	7	8	9

7. What kind of additional training has your business provided for this employee?

Type of Training	Amount of Time Hours
Examples: ABC Tractor School	72
On-the-Job Instruction	160
1._____	
2._____	

8. How would you rate this employee compared to other beginning employees you have hired for similar positions?
____Superior
____Above Average
____Average
____Below Average
____Very Poor

EVALUATION OF TECHNICIAN TRAITS

Directions: How would you rate the employee AS A TECHNICIAN on the following traits? Circle the number at the right which you feel appropriately evaluates the technician.

GENERAL TRAITS	Below Average 1 2 3	Average 4 5 6	Above Average 7 8 9
INTEGRITY: Trustworthiness, honesty, loyalty	1 2 3	4 5 6	7 8 9
DEPENDABILITY: Promptness, reliability in attendance and performance	1 2 3	4 5 6	7 8 9
RESPONSIBILITY: Willingness with which work is accepted and performed	1 2 3	4 5 6	7 8 9
INITIATIVE: Ability to plan and direct one's own work	1 2 3	4 5 6	7 8 9
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COURTESY AND FRIENDLINESS: Consideration and kindness toward others	1 2 3	4 5 6	7 8 9
PERSONAL APPEARANCE: Neatness, cleanliness, appropriate dress and grooming	1 2 3	4 5 6	7 8 9
POTENTIALITIES: Ability to meet and to apply one's self to new situations	1 2 3	4 5 6	7 8 9

NOTE: On the reverse side of this sheet, please list any technical competencies which this individual needs to improve.